

RADIO-PERCEPTION

THE JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. VIII No. 60



JUNE, 1948

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JOURNAL OF THE BRITISH SOCIETY OF DOWSERS

Vol. VIII No. 60

June, 1948

NOTICES

Contributions for the *Journal*, preferably in typescript, should be sent to the Editor at least five weeks before the first day of March, June, September and December if they are to appear in the respective *Journals* for those months.

A list of books in the B.S.D. Library can be obtained from the Editor.

The following books have been added to the library :

Jules Regnault	Baguettes et Pendules	1948	386 pages
Max Freedom Long	The Secret Science behind Miracles	1948	402 pages

The Title Page and Contents of Vol. VII have been printed and will be supplied by the Editor on application.

The price of new *Journals* to members, in excess of the free number, and of old *Journals*, is 2/- and 1/6 respectively.

Six free copies of the *Journal* will be given, on request, to writers of articles in it, in addition to the usual copy.

La Revue Internationale de Radiesthésie, which contains contributions from many countries and is issued quarterly, can be obtained from 322 Avenue de Tervueren, Brussels. The average length is about 130 pages and the annual subscription is 270 Belgian francs.

Dr. E. A. Maury, 22 Rue de Chazelles, Paris, will be pleased to reply in English to inquiries regarding his *déTECTOMÈTRE*, an example of which was shown at the B.S.D. Reception.

The Society's badges can be obtained from the Honorary Secretary for 1/3 post free.

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

We regret to record the death, on March 9th, of Emeritus Professor The Rev. M. C. Potter, at the age of 89, who had been a member of the B.S.D. for several years. He was well known as a botanist and for his study of plant pathology, and occupied

the chair for Botany at Armstrong College, Newcastle-on-Tyne, from 1892, when it was instituted, till 1925. His researches culminated in the discovery, in 1899, of the bacterium which causes white-rot in turnips. Since 1910 he became interested in electrophysiology; a pamphlet by him on Bio-Electric Potentials is in our library.

* * * *

We also regret to record the death, on March 24th, of Mr. A. A. Cook, of Walkerston, Queensland. He was an enthusiastic dowsor, and had developed a system of his own which others adopted. He had been a member of this Society for many years, and had contributed to the *Journal* on several occasions. He was the author of a book called *Radial Detection*, which will be found in our library.

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PART ONE

THE HOMING INSTINCT

The faculty which most animals possess of being able to find their way back to a place from which they have been removed, even to considerable distances, is one for which no conclusive explanation has yet been provided.

Veridical stories of cats and dogs returning to their homes from distances of many miles are known to all of us, but it is not so generally known that sheep also possess this homing instinct in a marked degree.

The ability of male insects to discover a female in a direction against the wind and the various practices adopted by bees to find their way and to convey information to others are perhaps in a different category.

In regard to the homing instinct of pigeons and the migratory movements of wild birds, experiments of a strictly scientific nature have been carried out recently in the U.S.A., and were described in an article by Dr. H. L. Yeagley in the December number of the *Journal of Applied Physics*, Vol. 18, No. 12, entitled "A Preliminary Study of a Physical Basis of Bird Navigation." The article was reviewed in *Discovery* for March, 1948, and it is mainly from that source that the information in this note is derived.

In carrying out the experiments, Professor Yeagley took the following facts into consideration:—

- (1) Pigeons released at the beginning of a morning flight usually fly in wide circles before moving off in a straight line towards their home loft.
- (2) They cannot navigate in winds of over 35 miles per hour.
- (3) The homing faculty can be improved by training over gradually increasing distances.
- (4) Pigeons are confused when released near powerful radio and radar transmitters.

A clue to the theory subsequently formed by Professor Yeagley was the recorded failure of pigeons to return to lofts in the neighbourhood of Indianapolis, an area which is referred to in his article as the "region of confusion."

Many years ago, it had been suggested that pigeons might be sensitive to the earth's magnetic field. This alone would obviously not account for the ability of pigeons to navigate, as the magnetic field is of approximately the same strength at equal distances from the magnetic pole. There is, however, another force which might come into play, called the Coriolis force, and it was the existence of this force which prompted the experiments under discussion.

Incidentally, the force is called after the French mathematician, Gaspard Gustave de Coriolis (1792-1843), and it is thus described in the latest edition of Webster's *New International Dictionary*: "A force acting on a body in motion, as a projectile, airplane or hurricane, due to the earth's rotation, diverting horizontal motions to the right in the northern hemisphere and to the left in the southern hemisphere." It is, for example, the force which causes the opposite rotation of the vortex of water issuing from a bath or basin in the respective hemispheres.

Lines of equal Coriolis force are roughly parallel to the parallels of latitude, but lines of equal magnetic force are not, as the position of the magnetic north pole, which is constantly changing, has been as much as 24° from the geographical pole. Hence it should be possible to fix any spot on the earth's surface from a consideration of the strengths of the magnetic force and of the Coriolis force, and an animal possessing an organism sensitive to both forces and able to appreciate minute differences in their strengths would be able to navigate over long distances.

Professor Yeagley noticed, however, that on a map on which lines of equal Coriolis force and of equal magnetic force were both shown there was an area where the two sets of lines were roughly parallel, Indianapolis being near the middle of it. In this "region of confusion" there would be no indication enabling a pigeon to navigate in an East-West direction. He also noticed that there were two points, namely, Kearney in Nebraska to the west, and the State College, Pennsylvania, to the east of this area where the two forces were each of the same strength. He held, therefore, that a pigeon would be unable to distinguish between these two "conjugate" points, and experiments were carried out to test this hypothesis.

The two places are about 1,100 miles apart; it was found that when birds trained to fly back to Pennsylvania State College were released west of the "region of confusion" the majority flew to lofts at Kearney, whilst birds released east of the region flew back to the State College. Other experiments gave further support to the theory.

The Professor had first undertaken experiments to find out whether pigeons were sensitive to the earth's magnetic field. Small magnets were fastened to the underside of the wings, between the first and second joints, of a number of birds, whilst pieces of copper, similar in shape and weight to the magnets, were fastened to the wings of another set of birds. The result seemed to show that the ability to navigate of the birds with the magnets was seriously impaired.

It has been suggested by Professor G. Ising,* a distinguished Swedish geophysicist, that the Coriolis force acts on the liquid

*See "Ising's Theory of Bird Orientation," by W. H. Thorpe and D. H. Wilkinson, *Nature*, 1946, Vol. 158, p. 903.

in the semi-circular canals which form part of the structure of the inner ear, whilst sensitiveness to the magnetic field might be due to minute changes in the voltage of the bird's nervous system, due to movement through that field.

The experiments are by no means conclusive, and the explanation offered is not very convincing. It is possible that birds are endowed with a sensitiveness similar to that possessed by dowzers, though the biological nature of this sensitiveness still awaits an explanation.

In this connection, Mr. Maby writes as follows: "Most animals, especially migratory ones, birds and fishes, have this homing ability in a more or less unerring degree, and many dowzers I know can get the directional bearing of their home or family, &c., by means of an instinctive but apparently quite physical and objective feeling of a rather vague kind. . . . It looks, therefore, as though the animal were tuned in to a given frequency (e.g., that of the pigeon's nesting box, mate, droppings, &c.), and then feels or circles round until it gets beamed onto the target. Then it goes off on as straight a course as circumstances allow until within sight of home and familiar landmarks, scents, &c. . . . Certainly magnetic fields, electronic oscillators and large masses of magnetic iron appear to disturb the normal field and to upset the creature's directional sense, and many dowzers, including myself, have noticed the same thing. In other words, electromagnetic interference can, and does, readily occur.

"As for putting small magnets on the carrier pigeons, one might expect interference on that account, as we have repeatedly shown experimentally that magnetic fields possess some polarising action on this class of radiation, and that directional beams can be reciprocated as well as deflected magnetically."

Besides the references already mentioned, a survey of the literature dealing with the sensory basis of bird navigation was published by D. R. Griffin in *Quarterly Review of Biology* (1944).

HUMAN BI-POLARITY

BY J. CECIL MABY, A.R.C.S., F.R.A.C.S., B.S.D.

In two interesting contributions by Dr. E. A. Maury and Mons. L. Chouteau respectively, in the March *Journal*, contrary opinions are expressed regarding human bodily ("magnetic") polarities.

With the majority of dowzers and radiesthetists, Dr. Maury votes in favour of such bi-polar effects, though he disclaims any

constant relation between bodily polarity and sex—a conclusion also drawn by L. E. Eeman and myself in our work upon right and left handers. For it appears that polarities may be inverted in inherent left-handers. Otherwise, I think it is fair to conclude with the earlier pioneers (Reichenbach, Abrams, Mesmer, &c.) that polarity is typically opposite in members of the two sexes, and that this fact affords one strong reason for their mutual attraction, physically speaking.

It has, further, been suggested from time to time that inherent oppositeness of bodily polarity in different sensitives may explain their tendencies to opposite rod or pendulum reactions in general. And tests by me since Captain W. H. Trinder pointed to such a general distinction between his own and my own reactions at a given time and place have tended to confirm this idea. I also find (as I think Major Pogson and others have suggested) that there is, other things being equal, an opposite response between the right and left hands. So that the method (advocated by Mullins many years ago) of putting the main tension in *one* hand and arm when using a forked rod is most sensible. And this I always do, personally, especially when edging up to a zone sideways in order to define it as sharply as possible with the nearest arm. By so doing the rod is also kept more stable when walking over rough ground or in a wind than when both arms are strained together.

In his paper on *Human Perception in Radiesthesia* (loc. cit.), however, Mons. Chouteau denies such bodily bi-polarities, and he quotes Dr. J. Regnault's reference to Russ's (not *Ross*, as printed in the *Journal*) important experiments many years ago on a simple instrument affected by human vision. For Dr. Regnault denied that Russ's little paper cylinder—which is simply another version of the Baraduc "Biometre" or the Dowding rotating cylinder—would work when he and a colleague made a few trials together.

In view of all that has been done by Dr. Russ, by Baraduc, by Lord Dowding, Mr. D. O. King and myself, among others, on delicate responses of this class; not to mention the work of Mesmer, Baraduc, Reichenbach, Kilner, Abrams, Starr White, Eeman, &c., on human body polarities, and the general consensus of opinion among dowers and medical radiesthetists; it is almost certain that Dr. Regnault and Mons. Chouteau are mistaken over this particular question.

As for Dr. Russ's experiments, I can only say that they fall very nicely into line with what I found when testing out the Baraduc "Biometre" some years ago, and again more recently, and more surely, with the new "radio-electrometer" (based on

the Dowding cylinder), as discussed in *B.S.D.J.*, VI, 49 and 51, and VII, 54. And after very long repetitive tests under all sorts of conditions of time, place, weather and human subjects it was concluded that the diagrams of human "magnetic" polarity given by Abrams, Kilner, Reichenbach, Eeman and the rest are substantially correct; and that such polar distinctions could be demonstrated by the new radio-electrometer quite positively.

It must be noted, however, that such attempts should only be made with an instrument that is perfectly balanced and screened and controlled (an extremely difficult task), and under magnetically "quiet" and meteorologically settled conditions. Perfect symmetry of the environment is needed; objects and people must be still in the immediate vicinity; streams, pipes and electric cables remote; and the operator and any onlookers must be placid and unemotional.

Owing to the incidence of so many variable factors and the extreme sensitivity of the method, as well as liability to either fading or polar reversals in our stormy English climate, these subtle polar distinctions are very difficult to demonstrate *to order at a given time or place*. And, in general, the worst possible conditions are in an urban area in the afternoon of a stormy day or with several tense or emotional bystanders present. It is, therefore, not at all surprising that some investigators are dubious or that Dr. Regnault and his colleague failed on the two short occasions when they tried to repeat Dr. Russ's observations—even supposing that they had made the apparatus correctly and were themselves suitable subjects.

Appearances are often deceptive: nowhere more frequently so than in dowsing and radiesthesia, unfortunately. And it is my firm opinion that to become a successful and consistent radiesthetist requires more skill, patience, experience and insight than almost any other branch of experimental work or craftsmanship. In this it resembles certain branches of Psychical Research. And I personally believe—tentatively, at least—that many of the geophysical, bio-physical and psychological factors that are all-important in radiesthesia are also fundamental to experiments in so-called extra-sensory perception and the like. In other words, that these two subjects are closely inter-related and, to some extent, coincidental.

But that is not the same thing as admitting that radiesthetic reactions are, primarily, of psychological origin. Nor, on the other hand, is it the same thing as insisting that all phenomena of both classes are purely physical. Both mind and body participate, as Mons. Chouteau rightly insists.

SCENT

*Address given to the British Society of Dowsters
on February 11th, 1948,*

By C. SOMERS TAYLOR, M.A.

The sense of smell is possessed by nearly every human being, and it is recognised by everyone as an almost infallible indication of the presence of certain natural substances. As in the case of dowsing, this sense exists in a more marked degree in some persons than in others, while, also, there is strong reason to believe that most four-footed animals are more sensitive to some scents than are human beings.

It is such a common phenomenon, and, at the same time, such a riddle, that very little progress has been made in its explanation and measurement; it has just been accepted as a fact, without enquiry, though it has been mentioned in classical works from very early times, certainly from as far back as Theophrastus, who wrote in the fourth and third centuries before Christ (*vide* Theophrastus; *Enquiry into Plants, and Minor Works on Odours and Weather Signs*, Loeb Library, 1916) about solvents for perfumes, their medicinal values, the odour of animals, and the relationship of odour to taste and the other senses. In spite of this universal recognition of the phenomenon, however, we find H. B. C. Pollard, in his book *The Mystery of Scent*, published in 1937, dealing with the very special aspect of scent as applied to fox-hunting, writes that he thinks that the present state of knowledge on the subject is much as described by Beckford in 1781, whom he quotes as saying, "As you ask me my opinion I had better give it to you, before we begin on the subject of hunting. I must at the same time take the liberty of telling you that you have puzzled me exceedingly, for scent is, I believe, what we sportsmen know least about; and to use the words of a great classic writer "*Hoc sum contentus, quodetiam si quo quidque fiat ignorem, quid fiat intelligo*" (*Cicero, de Divinatione*). This sounds very nice, but seems to mean, in plain English, "Here I rest content, although I may not know how it happens, yet I know that it does happen."

Among other classical writers who have touched on the subject we find Dioscorides, Ovid and Pliny the elder. This latter has written quite a lot about the actual materials which produce scents, but has not attempted any explanation of their action. He writes, that is to say, about perfumes, and not about scents. It may, however, be of interest to make a few short quotations on the subject from a translation of book 13 of his *Natural History*. According to him (translation, Loeb edition); "In the days of the Trojan war they did not exist, and incense was not used when prayers were made to the gods: even in the rites of religion

people only knew the scent of cedar and citrus wood, trees of their own country, or more truly the reek, as it rose in wreaths of smoke, though attar of roses had already been discovered." This, of course, cannot mean that people had no sense of smell in those days. They recognised scents, and took them as a matter of course as one of the properties of the scented object. Pliny just means that apparently even the most elementary applications of the phenomenon of scent to civilised life had not begun before the time of the Trojan war. He is of the opinion "Perfume ought by right to be accredited to the Persian race: they soak themselves in it, and quench the odour produced from dirt by its adventitious attraction." It is well known to all of us how Imperial Rome later took to the application of scent, and the old cavalry officer, Pliny, becomes scornful in his remarks, when he refers to the fact "That this indulgence has found its way even into the camp: at all events the eagles and standards, dusty as they are and bristling with sharp points, are anointed on holidays—and I only wish we were able to say who first introduced this custom! No doubt the fact is that our eagles were bribed by this reward to conquer the world! We look to their patronage, forsooth, to sanction our vices, so as to have this legitimisation for using hair-oil under a helmet." A little further on we read: "It is a well-known fact that Lucius Plotius, the brother of Lucius Plancus who was twice consul and censor, when proscribed by the Triumvirs, was given away in his hiding-place by the scent of the unguent he was using—a disgrace that acquitted the entire proscription of guilt, for who would not consider that people of that sort deserved to die?" This last observation seems to be caused by the well-known fact that the effect of scent on different personalities has a very different character. Obviously Pliny's nostrils were not so favourably affected by the scents of the unguents used at that time, at any rate such unguents as were used by the unfortunate Lucius Plotius, as were those of this latter.

The fact of this different effect of scents on different persons makes for one of the difficulties in a proper examination of the character of a scent. Just as in dowsing, the classification ultimately rests on the experience of the observer, which may differ, not only in quantity, but also in quality, from one person to the other. What, in fact, to some people may be attractive, may to others be repulsive. All of us must have noticed this on buses, and elsewhere. Certain varieties of shampoos, for instance, must be pleasant to the nostrils of the users and their friends, while to other people the less said about them the better. This difference in the type of perception becomes more marked when we go from one family of the vertebrates to another: the dog's idea of a delightful perfume differs largely from yours and mine. . . .

As I have said, Pliny entered into no discussion of the scientific reasons for scent, nor, until modern times, do any investigators seem to have touched upon this aspect of the problem. Scent, in fact, was one of the mysteries of life, and, like all such mysteries, until the last three centuries it was, perhaps, a little dangerous to meddle with it. There was something akin to witchcraft in the idea, just as in dowsing, and an undue interest in the matter was likely to draw too much attention to the investigator from those who preferred that a mystery should remain a mystery.

It is true that the artistic side of perfumery was well developed, and, in the middle ages, sachets containing perfumes were also much used for therapeutic purposes. In a small book published by Henry Frichet in 1937 (*Plantes et parfums magiques*) the author mentions these sachets, and gives an account of some of the perfumes and other substances used. The perfumes were enclosed in little muslin bags and tied on to the patient during the night. The same author quotes Robert Boyle as saying that (translating from the French) "The great number of emanations proceeding from magical powders into the human body show how porous and easily permeable is this latter."

The little that I have said will indicate that until late years ideas on scents and perfumes remained quite undeveloped as far as the physical investigation was concerned. Until the nineteenth century, in fact, ideas on scents and perfumes seem to have been in much the same or even a less developed state than was the science of organic chemistry, which took its modern shape from 1828 with Wöhler's revolutionary discovery that living force was not necessary for the formation of organic compounds. From that time, or a little later, chemists tried, first of all, to synthesise the known perfumes, and, later, both chemists and physiologists have made an endeavour to throw light on the manner in which these scents work.

The situation seems to be fairly clear as far as the physiologist is concerned. He seems definitely to know the organs and nerves which are affected by the phenomenon, but, to some extent, from the physical side Beckford's opinion quoted by Pollard appears to remain true. It does not seem to be true, however, in its entirety. The rise of organic chemistry to an exact science in the nineteenth century started many speculations on the chemical nature of scents, to some of which I shall refer briefly later.

Frichet, in the work above cited, classes these scented emanations with the rays which he says are given out by all matter, living and dead. It does not appear that he thinks that the scents are due to what we generally know as rays, that is, rays of charged particles, but in his introduction he says: "Mankind gives out rays. Animals, plants, flowers, metals and metalloids also give out rays; for everything in the universe produces

radio-active, and scented, emanations which our imperfect senses do not allow us to perceive, but which, none the less, are real and powerful.

"The therapeutic effects of plants are known, but their effect, from a psychological point of view, is no less important. The perfume of flowers, nearly all scents, have an influence on human mentality, just as do light, sounds and colours."

What, then, produces this effect? We may, I think, entirely cut out the idea of what is ordinarily known as radiation, which, of course, depends on particles much smaller than the molecule. Electrical or thermal stimuli do not usually give rise to olfactory sensations (though J. Althaus states that he found electrical stimulation to cause a sensation of the smell of phosphorus). The effect, however, is not caused by large particles, for ordinary filters do not keep perfumes from the olfactory nerves. The only reasonable assumption seems to be that the effect is in some way a molecular one, i.e., that molecules flying from the scented substance stimulate the nerves in some way.

On this assumption, Sir William Ramsay tried to connect smell with chemical constitution. In a short paper on "Smell," published by him in *Nature* in 1882, he suggests that our sense of smell is excited by vibrations of a lower period than those which give rise to the sense of light, and that the difference of smells is caused by the rate and nature of such vibrations. He then carries on with an analogy between such an idea and that of musical tone, an idea which had already been presented in the fifties of the nineteenth century, in rather a more fanciful way, by Septimus Piesse, who wrote the *Art of Perfumery* in 1855.

Though Ramsay's and other theories of this kind are still speculative, we are given the idea, on which we can work, that the question is one of small quantities of matter, perhaps not of the ultimate size of molecules, but still very small.

To give an idea of the extreme minuteness of the quantities that are necessary in some cases to produce the sensation of smell, we may take an observation by Zwaardemaker. He found that the presence of a ten-millionth of a milligram of ionone, the active principle of the scent of the violet, was perceptible when diffused in a litre of air. (See Sagarin in *Science and Art of Perfumery*; New York, 1947). These figures are almost incomprehensible to me, the numbers are so large, and the actual quantities so small, but they show that we could go on smelling ionone for a long time before we appreciably reduced its weight. In fact, a grain of musk will scent an apartment for years, and at the end of the time no appreciable loss of weight can be detected. On the other hand, we may have a substance such as

camphor, which we all know, alas, cannot be kept in the open air for more than a very short space of time. These two scents, one rapidly vanishing and the other clinging, we should instinctively class as of very different types.

What now do we mean by the type of a scent? I believe that Linnaeus was the first to endeavour to develop a system of classification of scents. He divided them into seven groups: aromatic, as bay; fragrant, as lily, jasmine; ambrosial, as musk, amber, civet; alliaceous, as garlic; fetid, as valerian; poisonous, as most of the solanaceae; and sickly, as pumpkin and cucumber. In such classifications we meet the difficulty that different groups of persons may have different ideas, such, for instance, as the fact that camphor, for many of us a pleasant odour, is described as a not pleasant odour by such a well-known author as Hans Henning (*Der Geruch*), who has collected a vast amount of valuable information on this subject. It is impossible to give an idea of this work in a brief paper; but I may refer to the fact that Henning has also classified the scents, under a system rather differing from that of Linnaeus, and that he has pointed out that in any system one type must of necessity merge into another, a difficulty with which the biologist frequently has, of course, to contend.

Henning also refers to the idea of "osmophores," which are specific groups of molecules, giving rise to specific sensations, on the analogy of the chromophore groups, so well known in the dyeing industry as determinants of the types of dyes. There seems to be little doubt, as I have already said, that the sense of smell, from the physical side, depends on some property of the actual molecule of the scented substance. This property, whatever it may be, will, without doubt, ultimately depend on the arrangement of the various groups within the molecule, as it is generally accepted that all external characters of substances depend on these arrangements as well as on the groups themselves.

We have not time to enter into a general discussion of the effects of any particular group, but it might be as well shortly to consider these molecules and their size.

Even the largest molecules are almost inconceivably small. To get an idea of the size of a molecule, we may take as an example the well-known substance fluorescein, which is known to have a complex molecule which is 332 times as heavy as an atom of hydrogen. Fluorescein is a colouring matter, and if we take one grain of this and dissolve it in 354 gallons of water we can still perceive its yellow colour. Now there are 7,000 grains in a pound avoirdupois, and 354 gallons of water weigh 3,540lb., so that here we have a dilution of approximately 1 : 25,000,000. This is the limit of dilution for the observation of the colour of fluorescein. If we take a single drop of this

solution it will contain approximately 1/500,000,000 of the original grain of fluorescein, but we should have to dilute this drop another 400,000,000 times for a drop of the resultant solution to contain a molecule of fluorescein (*Encycl. Brit.*). Or, unless my arithmetic is incorrect, in a grain of fluorescein there are 200,000,000,000,000 molecules; and 400,000,000 molecules of fluorescein, a very powerful dye, are required to be evident to the human eye. Zwaardemaker's observation, already quoted, which showed that one ten-millionth of a milligram of ionone is perceptible in a litre for sensitive noses, therefore seems to indicate that the order of perceptibility of some scents is comparable with that of dyes. Here, then, as in dowsing, we have a faculty which seems to be capable in some cases of the detection of quantities which are immeasurably smaller than those found by ordinary instruments. I must again repeat, however, that this sensibility, like that of the dowsing phenomenon, is probably much more dependent on the reactions of the particular observer than that of sight, which seems to be much the same for all normal observers; though Henning states that it appears, from his observations among different classes of people, that in each class the sensitivity seems very constant.

This difficulty of diversity of sensitivity has been the great difficulty with observers of the quantitative reactions of a scent ever since definite observations have been made, for, in the case of scent, even as in that of taste, what is one man's meat may be another man's poison, and, as I have already suggested, in the case of some strong scents sensitive nostrils may be repelled, while others less sensitive may be attracted. As a case in point, we may take the scent of jasmine, which, when coming from the flower, in an exceedingly great dilution, most of us find pleasant. The scent of this flower, however, contains the material "indol," an aniline derivative with a most unpleasant odour. A little consideration will multiply this example into many, as, for instance, musk, civet, and so on, which in their concentrated form can hardly be regarded as pleasant. Personal error, however, is existent in all observations, and its presence has not deterred attempts to develop apparatus able to classify scents under definite measurable headings; and this, to modern ideas, is the first step on the road to a proper scientific knowledge of the subject.

As I have said, Linnaeus seems to have made the first attempt at a rough classification of scents, in connection with his systematic classification in botany. It is certain that many of the scent experts of the perfumery trade have a very good idea of the effects of scents on themselves. Just as a sensitive dowser, they are well aware by their own personal reactions of the actual value of a certain scent; but also, as seems to be true in the case of the dowser, they cannot make clear to the non-sensitive the

actual nature of their own reactions (even should they want to do so, which the scent experts do not, for the sensation is proprietary and of great value to them as a stock-in-trade).

Like good dowsers, good sensitives for scents are rare, and, in an attempt to give an idea of how to blend scents so as to be pleasing, Septimus Piesse, who wrote, as I have said, in the middle of last century, tried to classify perfumes according to a scale which corresponded to the musical gamut. He placed the whole series of known perfumes parallel to this scale, which he called the "Odophone" (reproduced by Sagarin in *Science and Art of Perfumery*). Whether Ramsay knew of this work or not I cannot say, although he seems in the above-cited paper to have expressed the same idea. Piesse's idea was worked out by him empirically, and little of actual value accrued. Later, however, Zwaardemaker has developed an apparatus by the use of which he has obtained a series of what he calls olfactory numbers, and has classified scents according to these numbers. It would be nice to say that this method of Zwaardemaker was working well, but Edward Sagarin, in the book already quoted, states that there are great variations and disagreements, not only between Zwaardemaker's figures and those of other authorities, but even the same investigator has not been able to duplicate his own results.

Sagarin refers also to some very interesting attempts to solve the problem, described in a series of papers from the Neurological Institute of New York (*The Sense of Smell*, Charles A. Elsberg, 1935 to 1937). Elsberg described a simple apparatus constructed to test the smallest quantity required to produce an odour when an odorous substance was passed through both nostrils at the same time. He and his co-workers called this quantity the "olfactory coefficient," and they say that they found variations of only the slightest nature from one tested individual to another. They experimented on forty individuals with thirty-six odours. Such coincidence in so many cases seems to be a step in the right direction. From what we have learnt of the extremely minute quantities necessary to produce scent, and, therefore, of the extreme sensitivity of the human instrument, it is unlikely that we should be able to replace this instrument by a mechanical contrivance. In this respect we seem to be running parallel to the dowsing phenomenon, which appears to manifest itself where there do not seem to be any external evidences of the object which causes the sensation. On the other hand, it differs from dowsing, in that everyone, or practically everyone, is conscious to a more or less marked degree of the sensation of scent, for which the sensitivity is nearly universal.

With regard to this sensitivity, there is little need to do more than make a very brief reference to the well-known powers

possessed by certain animals, and reputed to be possessed by certain savages. Recent observers seem to doubt whether the savage has, in fact, greater ability to detect scents than a trained civilised person. That many savages have developed their powers of scent is certain, but it is now, I believe, generally thought that this is owing to training, brought about by necessity.

To sum up, then, the few facts that I have mentioned regarding scent and their bearing towards the dowsing phenomenon in which we are so interested.

In the first place, though both exist without doubt, yet while the faculty of scent seems to remain with all of us, even the completely untrained, the dowsing ability in many of us is either non-existent, or not perceptibly developed.

Secondly, as to the way in which the phenomena are produced there is still uncertainty; though the consensus of opinion is that the dowsing phenomenon is produced by what are commonly known as radio emanations of high frequency, so far as I know, regarding smell, Ramsay's opinion still holds, i.e., that the sense of smell is excited by vibrations of a lower period than those of light and heat; and whilst Henning categorically states "Any parallel between the emanations of radio-active substances and scents is ruled out: aromatic materials carry no charge, neither have they any active influence on a photographic plate." This I have quoted as Henning has written it. He must, of course, mean that they have not any influence on a plate with which they are not in immediate contact.

Thirdly, in the case of scent, and of dowsing, both are in many cases caused by agencies of such small magnitude that it is difficult to devise an instrument able to detect their presence without the intervention of a sensitive personality, of which there are perhaps a greater number in the case of scent than in that of dowsing.

Fourthly, in both *rémanence* phenomena seem to be possible. In the case of scent, I need only mention the scent of certain animal perfumes, and the possible example of a more marvellous phenomenon observed at Rome a few years before the war, when certain pottery, buried under debris during the sack of Rome by Alaric, and lately exhumed, were observed slowly to exude, from their pores, a smoky scent. It was assumed that this was the scent of burning Rome, 1,500 years ago; and, whether the assumption was justified or not, it bears a strong resemblance to the numerous claims of identification of personal relics by dowsing methods.

RURAL DISTRICT WATER SUPPLIES AND THE DOWSER

Address given to the British Society of Dowsers on March 17th, 1948,

By W. G. LINES

Water supply is far more important than the average person realises, and water is really our most precious commodity, for without a proper supply nothing can exist.

In 1945 a census was taken and as a result of this it was found that 5,700 villages in England and Wales were without a piped supply. This in itself is a very serious position, but when you think of the thousands of farms and isolated dwellings which are in a similar condition, it must be realised that our water supplies in this island are in a very poor state.

Birmingham uses 55 million gallons of water per day from its wonderful reservoirs at Rhayader, but during the recent drought period this great supply was reduced so much that if rain had not fallen in large quantities, the reservoirs would have been empty in 35 days.

What has happened once can happen again, and it is well known that the public supplies in Manchester and other large cities were in a worse position than Birmingham. It must also be understood that all public supply companies are having to extend their mains considerably, and this will put a further strain on them. In the outlying districts, around the great cities, owing to the difficulty in obtaining an adequate water supply from a shallow surface well it is used sparingly, but when the main supply is extended to them consumption rises considerably. As I have previously stated, without an adequate water supply we cannot maintain ourselves in a healthy condition, and, as this is our desire, no stone should be left unturned to achieve this object.

Eminent engineers have stated that we should store more water in the wet season for use in the dry periods, but the fabrication of reservoirs is an expensive item, and it is necessary to store such huge quantities of water suitable to supply such cities as Birmingham with over 55 million gallons per day and Sheffield with 25 million gallons per day. Unlimited extension of reservoir capacity is therefore not the answer to the problem, because distribution is another expensive item. Extension of main supplies around an area makes huge additions in pipe lines as the circle grows; consequently, the extra storage which can be made is required for dealing with the reasonably near-at-hand requirements.

Large cities are usually anything from 50 to 100 miles apart, and therefore, owing to mains not extending more than 15-20 miles from the centre, huge tracts of country are waterless,

except for supplies from shallow wells. Shallow wells in the more thickly populated rural districts can easily become polluted by sewage and other surface impurities; consequently, this does not supply the answer for the rural water supply.

We are faced with the great difficulty of obtaining raw material, but Great Britain is very favourably placed geographically for obtaining an ample supply of water for all purposes. It is understood that all our water is rainfall, and the rainfall is caused by vapour-bearing winds which collect their moisture from the surface of the water on the south-west and west side of Great Britain, and this is condensed on the hills on that side of the country. There should therefore be no difficulty in seeing why the east side is called the dry side of Britain. An inch of rainfall over one square mile equals 16 million gallons, and, as the area of Great Britain is 88,748 square miles, you can see that considerably more water falls on this island than could be used, allowing one third to run direct to the sea, one third for plant life and evaporation, and one third going to underground storage.

If rainfall could be collected as is done by the Birmingham Water Department, and could be distributed to all parts of the country economically, this would be the answer to our water supply problems; but this is not possible, so an alternative means must be found.

Twenty-eight years ago I had an interview with a Rural District Council, and I suggested that instead of laying long mains, from which there would be very few tappings, a boring should be made, pumping plant installed and small communities supplied by this means. For many years this advice was ignored, but in 1932, owing to 14 shallow wells becoming dry and the whole row of houses being entirely without water, I received an urgent order to put down a 200ft. boring. This supplied the 14 waterless houses, and was eventually extended to 257 houses, the local hotel, village hall, church and school. From that time onward increasing numbers of Rural District Councils adopted this policy, and many schemes were completed before war broke out in 1939. This ended building in rural districts, and in 1945 the Water Bill was introduced, and the Government promised a piped supply to every house in the very near future. This promise was made without much thought being given to the matter, and although the intention was good, it is a physical impossibility to carry out the promise for at least another 100 years. The Ministry of Health and Rural District Councils have now realised the great difficulties, and they are pushing forward wholeheartedly with separate water supply schemes for varying numbers of houses, from 10 in number to 500. Where possible, a complete village is supplied from a single borehole nearby, but where a small number of new houses are built in a rural area a suitable borehole is made, a pumping plant installed, and a

storage tank is erected or water is pumped direct into the mains.

Water is not available everywhere on a site; it is therefore necessary to locate the best position, and this is where the dowser comes into the picture.

Most rural district surveyors accept dowsters, and realise that their work is neither black magic nor witchcraft, although it has been an uphill fight to make many believe that dowsing serves a useful purpose. During the last few months I have given lectures on dowsing to communities, and on January 5th I received a considerable amount of criticism, but, fortunately, was able to prove my point quite easily.

It must be remembered that the B.S.D. is a reasonably new body and has no very large background, but of its members there is not one who could say that he has never had a failure. It is, however, no use telling the public that dowsing is a new profession and has not had time to perfect itself when you have already stressed the point that it has been practised for at least 2,000 years. The fact that dowsing is a gift to some people and not to others, and no matter how the latter try they cannot acquire the art, makes matters even more difficult, and tends to create suspicion amongst those whose job it is to find public supplies.

Several dowsters of my acquaintance, both in the Society and out of it, are doing very useful work in this direction, but there is that occasional failure which it appears impossible to overcome and which does put doubt in the minds of such people as surveyors. It is their duty to take only reliable advice and if the Housing Committee is disappointed with the results achieved the surveyor is criticised, and he in turn chastises the dowser or the well borer, whichever crosses his path at the time of failure.

For those Rural District Councils which accept dowsing as a proper means of locating water from underground sources—and there is an increasing number of such bodies—the procedure is as follows:—Sites for rural houses are selected, and the number of houses required is stated; the dowser is then asked to survey a number of sites, and, on his report being given, tenders for well-boring are called for. A great deal of responsibility rests on the dowser who selects a site, as well-boring, owing to the high cost of labour and material, is a very expensive item. The successful contractor is asked to put down a boring to the depth stated by the dowser, carry out a test of the yield, and advise the sanitary inspector whilst this is in progress, so that he can take a sample from the bore at the end of the test period. This procedure is very sound, but I do wish to point out that although a dowser might be really good at locating water he should be very wary about giving advice on the construction of bore-holes. I, personally, have had 40 years' experience in well-boring, in all parts of Great Britain, and, with all that experience, occasionally I have to think very carefully when it is decided to put down

borings in certain districts. The leading well-borers have, in many cases, had to buy their experience, often at great cost, and they have a wealth of knowledge. It can therefore be plainly seen that their methods are reliable and, if the dowser has reason to doubt their abilities, it is his duty to approach the contractor before reporting what he may think is wrong to the customer.

If the well-borer is a reputable one, he will be able to state his reasons for doing anything that may appear to be strange to the layman, and I would always say that where possible the dowser and well-borer should co-operate closely. For the information of all dowsers present, I would say that bores yielding 1,000 g.p.h. continuously are in the greatest demand for small communities, as this is ample for 50 houses with a short pumping period, and there is also a good reserve in cases of emergency.

My firm recently put down a 12in. boring to a depth of 175ft. below surface on some high land at the rear of 50 council houses. At this depth a supply of water at the rate of 5,000 g.p.h. was obtained, with a pumping level of 75ft. below surface. The water was raised by a submersible type electric pump, and delivered into an overhead storage tank on a 30ft tower, from which it was delivered to the council houses through a 4in. main. The pump was automatically controlled by no-float switchgear; therefore 120,000 gallons of water per day is available in this village. Naturally, as this quantity exceeds the requirements of the council houses a supply is being given to the whole of the village, which comprises a further 200 houses. Until lately this village has relied on individual wells of varying depths, some fitted with hand pumps, and some with windlass and bucket. You can readily see what a great boon this ample supply of water will be for this poorly watered district. In this instance, the water is softened before it enters the overhead tank, therefore no finer supply of water is available for any community in the country, although it is far removed from large reservoir supplies.

It can readily be seen that a piped supply is being given to the public, and whilst very few people interpret the 1945 Water Bill in this manner, there is no doubt that there is no other reliable way of giving rural communities a running water supply at an economical figure. Unfortunately, water wells are usually depicted as open-top shafts, with no protection from surface pollution, but with ornamental windlass or pulley for raising the water from below. This makes a delightful ornament for an old-fashioned garden, but it is completely out of date, and bears not the slightest resemblance to a modern water supply from underground sources. Such cities as Coventry draw all their water from underground, therefore what is correct for a city of 250,000 people is surely correct for smaller communities in proportion to their needs. In my opinion, water taken from the earth and filtered by nature is preferable to water taken

from rivers which have received sewage effluent, as it requires filtering and chlorinating before it can be used. Wherever chlorination has to be done there is a chance of overdosing; this makes the water far from palatable, although bacteria have been destroyed.

During 1947 my firm put down over 100 borings, varying in depth from 80ft. to 1,250ft., and the number of failures was four. Three of these failures were in the same district, which is a Lower Lias formation, but the fourth was in Keuper Marl and Old Red Sandstone. The last one would definitely have yielded water if we had pursued the matter to 400ft. below surface, but the risk of tapping salt water was too great, so it was abandoned.

The first of the three borings put down in the Lower Lias formation was sited by a well-known Midland dowser, and I personally checked his findings. We were in agreement as to the depth and quantity of water, but I am sorry to say our depthing was wrong, as we were both of opinion that water would be found at 60ft. below surface, whilst 120ft. below was the exact depth. This was a very bitter experience, but I should feel much happier if I thought that you could, with safety, double one's depthings in this type of strata. I would mention that in this case a supply of water was obtained, but the salt content was so great that it could not be used for domestic purposes.

No. 2 boring was not pursued to double the prescribed depth owing to the results obtained in the first instance and the disappointing result.

No. 3 boring was sited by me, and although I expected to find water at 120ft. below surface, I did not do so, and after passing through the Lias clay at 225ft. and proceeding to 400ft. in the Keuper Marl, no quantity of water was found. You will see that from a dowser's point of view we really had one per cent. failure in 1947, which could be considered reasonably good.

From my remarks you will see that the dowser is at last coming into popularity, but all who practise dowsing professionally must make themselves as near perfect as possible, or the Society and what it stands for will suffer considerably. I, personally, would like to see dowsers' meetings held on sites where it is proposed to bore for water, and if they were properly organised, and records of depths and gallonage recorded, the results could be given when the work was carried out, and various methods could be criticised at a future meeting.

A great deal of knowledge would be obtained in this manner, and I would definitely undertake to make arrangements for Midland experiments on land where my firm would eventually bore for water. I see no reason why at least two meetings per year could not be carried out in the Midlands, where I consider the most difficult country exists and where a large amount of water has to be drawn from underground sources.

There is a considerable number of first-class dowsers, inside and outside the Society, residing in the centre of England, and whilst we could rely on their support at a headquarters in or near Birmingham, it would be very difficult to persuade them to visit London often, and therefore, in my opinion, valuable material is being wasted. No stone should be left unturned until all failures are eliminated, and, wherever possible, well-borers should be recruited, as their interest is essential.

In conclusion, I would remind all dowsers that the largest storage reservoir and greatest number of pipe-lines are those made by nature when the earth was made porous and fissured. As dowsers, it is our business to trace those water-bearing fissures so that borings can be made and water brought to the surface for the good of mankind.

UNDERGROUND PASSAGES IN KENSINGTON

BY CATHERINE OULESS

In Loftis's *Old Kensington* there is a description of Little Campden House, built to accommodate the suite of Princess Anne (afterwards Queen Anne) when she sent her little son, the Duke of Gloucester, to live on Campden Hill for his health. A passage was said to run from the house to Kensington Palace, and when the Metropolitan Railway was made the tunnel from Kensington High Street Station to Notting Hill Gate cut through this passage. Mrs. Bruce, who lived in the house till the beginning of the War, told me that the entrance to the passage was in her cellars, but that she had had it bricked up. After the house was destroyed by a fly-bomb in 1944, this entrance was exposed for a short time, but immediately covered up. I traced the passage with a pendulum and a rod as far as Holland Street.

Last year Mr. Latham, who made the interesting discovery of Roman masonry under Kensington Barracks and has traced various Tudor brick culverts in the neighbourhood, most kindly came with me and confirmed what I had found. He traced the passage as a 5ft. brick culvert with 14in. brick walls and a vaulted roof. He calculated that it was about 14ft. down, that is, about four or five feet below the cellars of the house.

In the account of the *B.S.D. Journal*, March, 1947, of Mr. Latham's most interesting discoveries under Kensington Barracks and of the Tudor culverts, he mentions that one supplied spring water to Chelsea Place, built by Henry VIII as a summer residence for his children. It would seem that the culvert, under what was Little Campden House, situated higher up on Campden Hill, was one of these Tudor waterways, especially as we traced it down Church Walk at the back of St. Mary Abbots, instead of in the direction of Kensington Palace.

ARCHAEOLOGY AND DOWSING

BY GUY UNDERWOOD

Part IV

TRACK LINES

Since my last article I have found something that seems to me to be of such interest and importance that I hasten to put it on record in the hope that other dowsers will investigate it and publish their results.

It must have occurred to most people to wonder why our country lanes, and the hedges, walls and ditches which make our field divisions, wind and twist in a completely incomprehensible manner. Many explanations have been suggested. As to the lanes the most popular one is that they were originally cattle tracks; another is that the twists are due to gradients or to obstructions now cleared away, or that they take their courses on account of the peculiar shape of the fields.

If, however, these suggestions are considered carefully, particularly on the moors or downland, it will be observed that the facts show a regrettable lack of co-operation in that they seldom fit the theories. For example, there are no fields on the moors, and it is far more likely that tracks preceded the fields. On the chalk downlands I have seen no signs and little likelihood of any such obstructions ever having existed. Cattle, when not grazing, are usually driven by man, and take the line he wishes them to take. Neither do the paths always take the easiest gradients. It seems obvious that there must be some other and important reason which caused all the old country lanes of prehistoric origin throughout the country to take these devious courses, instead of going direct from point to point as one would have supposed would have been natural and far less trouble, and as, in fact, the roads made by the Romans did.

What I have found is that all these tracks, lanes, roads and field divisions are aligned on dowsing influence lines which I call "track lines." These are very similar to, but clearly distinguishable from, those of water; and the reason for the winding courses of the lanes and hedges is that they are controlled entirely by the courses of these influence lines. These lines very frequently run parallel in pairs, usually at a distance apart of about 15ft., but often at distances of about 10 to 60 feet. The lanes are located between these lines. The existence of the lines can be verified by dowsing in almost any field gate, or where there are no hedges or walls, on each side of the tracks.

Many of our main roads follow these prehistoric tracks, and it is easy for the dowser to locate places where the road has been widened or its course altered.

Fig. 1 shows a road junction which illustrates this clearly.

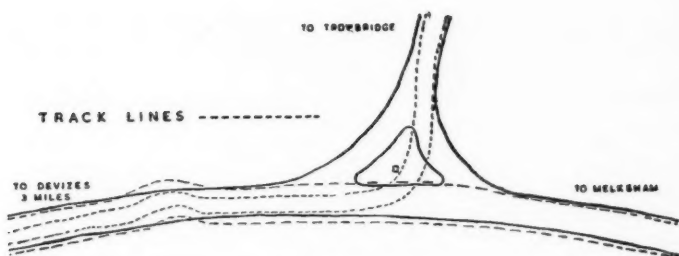


Fig. 1

These lines are not found on Roman roads or on those of later construction.

Field divisions are usually located on single lines, and the existence of these can also be verified in gateways.

I very much doubt whether the track lines have much, or any, relation to water. Most dowzers are aware that all positive influences associated with underground water—that is to say, the stream-band, the parallels and the sub-parallels (or H1 and H2 bands) are composed of three parallel influence lines, of which the centre one is always considerably stronger than the outside influences (or M bands). Track lines differ from water reactions in that they are always composed of three sets of three parallel influence lines, of which the centre line, that is to say, the fifth from either side, gives the strongest reaction. See Fig. 2.



Fig. 2

They are also weaker than any ordinary stream-band, and, in my experience, can only be distinguished in their nine separate parts by the use of a sensitive rod, and by care and patience.* They can, however, be *located* with a "twig," but if that is used, the dowser is likely to get only one reaction as he crosses them. The twig is slow in action and needs a fairly strong influence to make it work. It has been pointed out in previous articles that the dowsing influence is cumulative, and what appears to happen is that the little influences of each line build up as they are crossed until there is sufficient to move the rod. A "sensitive" rod, however, held properly, will give a clear kick forwards as

* To get faint dowsing influences such as those of track lines, the rod must be held in a critical state of equilibrium, with the hands steady, and the dowser should move slowly. With the "link" rod it is best to hold it by the wire (and not by the sliding handle) and with a good pressure on the rod.

each of the nine influence lines is crossed. The dowser may not get all of them the first time he crosses the line, but if he re-crosses it he will probably get them, and will have little difficulty in selecting the fifth (centre) line, which is the one I usually follow in open country. Often, however, on roads, he will be compelled to follow an outside line, as the hedges or other road boundaries were usually set upon the centre line. An interesting fact which I have often noticed is that once the dowser has picked up an influence line, however weak, and however many others there may be, he has little difficulty in following it, even if it is crossed by, or practically follows the same line as, others.

Track lines vary considerably in their strength—occasionally as strong as stream-bands, but usually weaker, and sometimes so weak that it is possible to cross them many times without noticing them.

I have seldom noticed any parallels associated with these track lines. They also appear to run continuously and to form a network all over the country. I have found them in all parts of the west country whenever I have looked for them, and I have also found them in the London parks.

In Regents Park the northern part of the road which leads from York Gate into the Inner Circle is aligned, in the way I have described, upon a pair of parallel track lines. These splay out east and west at the circle and appear to continue round it. See Fig. 3. Traced in the other direction, these lines cross the large lake at an island by the bridge and continue roughly parallel with the lake until a junction with other track lines is marked by a great mound (M3) in the park just north of Hanover Terrace.

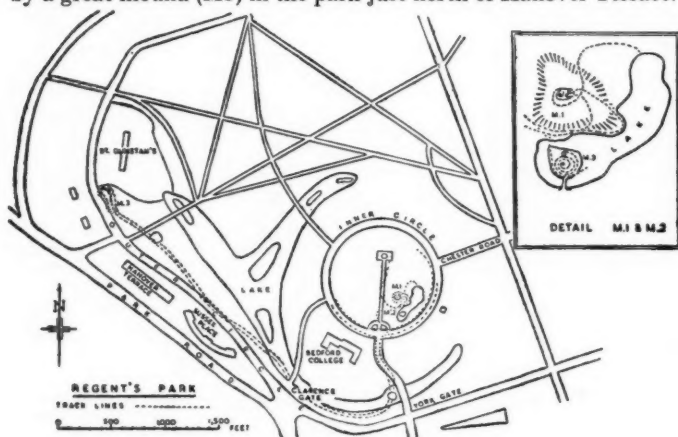


Fig. 3

There is a mound (M1) by the ornamental water in what was the Botanical Gardens, which appears to be a barrow of the Bronze Age. It marks the terminal points of three great spirals which encircle it. The little island (M2) in the ornamental water appears to be another, and marks a spiral. I more than half suspect that the Inner Circle follows the line of a prehistoric sacred Circle.

This proposition is not so fantastic as it may sound—the site of Regents Park has always been open country. It was designed and laid out by John Nash in about 1812, and he, no doubt, took advantage of, and was influenced by, the topographical features which he found there.

I was only able to spend a few hours on the survey, and hope that other dowisers will check my statements. Regents Park is conveniently situated for Londoners to test whether the track lines I have described have or have not a factual existence, which is the first and most important question. Possibly others will complete my survey.

It seems to me that the most likely explanation of track lines is that they are associated with fissures in the rock subsoils which underlie the whole country, all of which is fissured in various directions owing to seismic disturbance. Such fissures would naturally be continuous and connect with and be crossed by others. Occasionally track lines are found taking zig-zag courses for a few hundred yards in a manner strongly suggesting that they are following the lines of fissures. I can see no explanation of the tendency of track lines to run in pairs. Where they do so, however, I have usually found a very faint influence line centrally between them. The usual width of single track lines is four to ten feet.

These lines are easily mistaken for water influences, and I and other dowisers have often done so. I have found numerous wells that have been put into them. Although I have made a study of dowsing for some years, I have only during the last few months realised their existence and the distinction between them and the water influences. The fact that wells have been sunk into them successfully is not in my opinion unassailable evidence that these influence lines are due to water, and there is, as I have pointed out, some evidence that they are not—for example, the frequent absence of parallels. On the other hand, many fissures are waterbearing, and such must have parallels.

In my last article I referred to circular influence lines upon which the ancients located the ditches and mounds which surround some of their stone circles, and pointed out that these lines were interrupted in some places and that it was at such places that causeways across the ditches are to be found. These lines

are of the same type as the track lines which I have described, and the latter also exhibit the peculiarity of these interruptions. Where these occur all the nine lines are broken and turn back in spirals. See Fig. 4.



Fig. 4. Track line with typical interruptions.

The interruption is usually crossed by spirals.

The track lines which I have described are by no means rare, and many of them do not appear to have been made use of. They can be found in open country where there is no visible sign of tracks or field divisions. Often, however, their courses are marked by linear mounds, ditches or large stones, particularly at bends and at places where they cross each other. The stones built into walls at Freshford, Farleigh Wick and Bathford Hill, described in my first article on this subject, were of this kind.

Dowsing suggests that the large, dry cavities resembling ponds, and often called dew-ponds, are really marks where track lines cross, and that they are not intended so much to provide water supplies as to guide the traveller. Archæologists usually call these depressions "pond barrows."

The fact that track lines are so often found in connection with roadways, ditches and linear mounds naturally suggests the enquiry whether they may not actually be due to some electrical phenomenon consequent upon disturbance of the earth's surface by man. This, however, is not so. As stated, I have often traced them across chalk downs where the turf is only a few inches thick and where, therefore, any disturbance at any time would be permanently visible.

The trouble taken by the ancient people to mark the courses of these lines, particularly in the neighbourhood of their sacred sites, is extraordinary. The great ditch and mound at Avebury are a good example. The town in which I live is built on the steep sides of a great valley sloping down to the river. The north side of this valley here takes the form of a series of terraces lined with old cottages which are quite famous. I have always supposed that these terraces were a natural feature probably formed when some earthquake split the hills and caused the valley. The edge of every one of these five terraces is, however, marked by track

lines, and I now think it probable that the valley side was cut away into terraces by the ancients merely to mark the courses of these lines. All these lines ultimately connect with a prehistoric circle which is on the top of the hill and immediately above the terraces. I have found these lines in other places, also marking the edge of steep declivities, and therefore suggesting that the declivities are artificial. In another case, at Turleigh, near Winsley, Wilts, a lane leads up a cleft in the side of the valley and passes what appears to be a small quarry, with a cliff about 50ft. high, which I have always supposed to be of fairly modern construction. The track lines of the lane, however, lead off from the lane and follow the base of this cliff before returning to the existing lane, a fact which somewhat suggests that the cliff was cut away in prehistoric times so as to allow the lane to continue without leaving its track lines, which otherwise, owing to the steepness of the hillside, it would have had to do.

I shall, no doubt, be asked what possible connection these track lines, even if they exist as described, can have with the prehistoric religions, and why should they become sacred, as suggested? The principal answer is that they, and the tracks, mounds, ditches, pits and stones that mark them, were boundaries. They were absolutely permanent, and no human activity could alter them. They were, therefore, the best boundaries possible, and, as I pointed out in a previous article, the ancient religions and their priesthoods, which were the real governments of prehistoric society, were much concerned with boundaries, as is shown by the known functions of Thoth, Hermes and Mercury. They have also the added advantage that they are quite hard to find, and that to do so needs a certain amount of skill which must be learned. Unless substantial quantities of water happen to be passing under these track lines, which is unusual, the natural "village" dowser cannot, in my experience, locate them. It was therefore unlikely that uninstructed persons would discover this secret of the priests. This secret was based on a genuine natural phenomenon beyond the comprehension of the uninstructed, and therefore complied with the requirements of all good "magic."

Where, as sometimes happens, a single track line comes to an end, I have always found that it terminates in a spiral in which all its nine component lines lead to one focal point. In a future article I hope to deal with spirals, which had a great, but as yet unexplained, significance in the prehistoric religions. Beautifully executed carvings of "S" spirals on bone objects have been found near the Pyrenees, the date of which cannot be less than 10,000 B.C., and many examples are found on megalithic monuments in this country, of which the supposed date is about 2,000 B.C.

I cannot deal fully with spirals here, but should like to mention, so that others can test my statements, that at Stonehenge 18 great spirals converge on a focal point marked by the Altar Stone; and that at Avebury the central stone in the south Circle is the focal point of twelve spirals; and that at Stanton Drew the Great Circle of stones is aligned on a spiral which leads from the Avenue and makes an almost complete circle in an anti-clockwise direction.*

There is one thing which I have noticed in the course of my investigations into these things, and that is the extraordinary preservative and self-preservative power of grass turf. Once there is enough soil for it to live on and the roots have become matted together it becomes a living and self-reproducing carpet, like the skin of an animal. It does not appear to increase in thickness unless there is some nearby source of dust such as a road, and does not die out, however little there is. Some of the turf on chalk uplands is less than two inches thick, and yet it must have been there since the end of the last Ice Age, about 10,000 years ago.

A good instance of its preservative power is in the great artificial mound known as Silbury Hill, near Avebury. This must have been constructed at least 3,000 years ago. It is 130ft. high and has steep sides, and yet, apparently because of its grass covering, it has retained approximately its original shape, including a series of terraces which encircle the top. Dowsing indicates also that its base, which covers five acres, is still within a few feet of its original margins. I was sorry to notice that the turf is now falling away in places, which I suppose is due to modern dustless roads or possibly to rabbits.

Another instance is The Cursus, a great rectangular enclosure near Stonehenge, one-and-a-half miles long. It is over 3,500 years old, but its enclosing mounds and ditches are still clearly visible. Much has been talked by scientists about erosion, and I have seen lists purporting to show the exact rate of it. These instances, however, seem to me to show that where turf exists there is almost none at all.

To be continued

* Scale plans of my Surveys can be obtained, as shown on page 3 of cover.

TWENTY-TWO YEARS OF WATER DIVINING

BY W. N. BURGOYNE

Although I am not much of a typist, nor able to phrase, and possibly not place things in proper sequence, I am relating this in the hope that it may help someone.

In 1946 a local plumber who could dowse a little offered me a small hand boring set, as he was retiring. I said, "Of what use is it to me?" He then asked "Have you ever tried divining?" "Never thought of it"; whereupon, he cut a twig and said, "Have a go!" I did, and got the shock of my life. His remark then was: "My dear boy, you have a gift in a thousand!"; so I said to myself, "Here's luck!"

Well, away I went, and very cautiously marked a spot or two without committing myself by words, put down a 3in. test borehole, and, when my first go was a success, I began to believe my friend the plumber.

From then onwards I proceeded cautiously, and gained confidence. It has been a godsend to me, because in 1940 the Admiralty requisitioned my engineering works; then "Jerry" blitzed them and destroyed all the patterns; so at 60 years of age I had to begin all over again. Thanks to the "gift," I started to build up a water supply business; then came the "Evacuation" of our area, when I lost all my men; but in 1944 I came back and had another go, since when my services as a diviner have been in demand.

Since 1926 we have sunk nearly 100 wells and many bores, and as I proceed with my story, I will give a few instances of failures. To me they seemed few considering I knew nothing about "parallels," magnets, Creyke rods, whalebones, pendulums, change of muscle, repellent forces, clay beds, or any of the many things written about by so many of my dowsing friends, until about 1943, since when I have made a great study of the "gift," not art.

I have received help from Captain Trinder by personal letter, and from Mr. G. Applegate, with whom I am constantly corresponding, comparing experiences and trying to solve problems which still seem to crop up with both of us.

I had now better say something about the actual doings.

Since learning so much from books, &c., I have been able to check up the failures. In August, 1926, I had a bad one, but now realise it was due to being in a copse and the trees cast their "phantoms," hence depth failure. In April, 1927, I marked a spot, put down a 3in. test borehole, found at 20ft., bored on to 28ft., and lost it, but eventually picked it up again at 36ft., then sank a well which has turned out successful. With knowledge gained since, I can pick out these streams, and can pretty accurately

tell how deep to go if we only want a shallow and small quantity just for a hand pump. In May, 1927, I was a lot out in depthing, owing to 35ft. clay bed, but I can now somewhat, but not quite, overcome this with the "Creyke" rod. Another cause of failure, I have now proved, is owing to houses, high walls, and even persons, being too near me when operating. Again, another bad failure was due to there being iron in the rocks when I had a bunch of keys on me. After finding no water, I tried to find out why, and taking off keys, watch, and any other metals, the rod refused to budge. Since that experience, I have found several districts where special care has to be taken.

Where a syphon supply is wanted, and the levels are doubtful, I always advise my client to let me put down a 3in. test borehole, as it seems to me inadvisable to throw them into the expense of sinking a well, and then find that we are perhaps 2ft. or 3ft. too deep, to supply the house; so in this actual failure is avoided. One or two other failures I still cannot account for, but am hoping one day that one or more of our B.S.D. friends will, when visiting Devon, call and see me. Then possibly we could go to one or two of the sites and see why.

Talking about failures, I cite a case where our local Council employed a well-known diviner from outside this county (Devon) to get a village supply (of course, "a prophet is without honour save in his own country"). The Surveyor hired us to put down a test hole, but alas! at the spot where we said we should get enough at 25ft. for the village, we only got a dribble at 39ft., so the Council gave it up. Then a Councillor got a subscription from the village, and told me to go ahead. I went on top of the hill, and at 10ft. found a good spring, sank a well to 30ft., and got a good supply. Since that happened, I have ceased to be cocksure, and, as I know the diviner, I can see that, in spite of what some claim to be, there are times when something goes wrong with our receptive powers, apparently for quite unknown reasons.

As for my successes before I had tried out other people's methods, I conclude it was owing to the fact that I had found there was an end to the influences when going across the stream, and then chose a spot where the spring pulled strongest. I forgot to say that previous to my knowledge of the whalebone rod I always used a steel alarm clock spring, and even now I can be more sure of depthing with this spring than I can be with the whalebone or hazel. I still, however, get a few failures in depthing, although I have checked them over by methods explained in the *B.S.D. Journal* and such books as Mager's *Water Diviners and their Methods*, Besterman's *Water Divining*, Captain Trinder's *Dowsing*, *Physics of the Divining Rod*, and others; yet still they happen.

Re Depthing.—I cannot rely on the Bishop's Rule, but check up by

- (1) Strength of grip.
- (2) Beating of foot (having found my personal beat).
- (3) Small horseshoe magnet (going beyond the first two parallels and walking back towards the spot marked, and, when I feel the rod react, pacing the distance from there to the marked spot).
- (4) Standing the mumetal rod on the spring and walking out until the rod "jumps," then pacing it.
- (5) With the steel spring :
Spread the hands as far apart as the spring permits, then gradually bring the hands together until reaction occurs ; with practice I know the depth by the distance the hands are from each other. This is always my final test.
- (6) Hands and rod above head, and bring down until reaction takes place.

Re Pendulum.—I cannot depend on it ; all my other reactions seem to be as nearly as possible like Captain Trinder's, and why the pendulum fails me I cannot understand. The only use I put this to is to sample food.

Re Quantity.—I rely on the "liveliness" of the rod or spring.

Re Colours.—Although I experimented with these, I only use the black and white rod for first reactions, then the cobalt-violet for purity.

Re Times for best results.—I find that the width of influence varies ; for instance, when I have to go away beyond my own county on professional visits, I usually stay a night, then, on going out between nine and twelve (midnight), I find that the width of influence of a stream which measured 40ft. between 9 a.m. and midday would only measure about 10ft. to 12ft. on my nocturnal visit. Again, I find my best results on a waxing moon.

Re Body Finding.—I have on one occasion been on this job, but it was a terrifying experience, and it is certainly not a desirable work. Readers no doubt saw an account of it in one of the *B.S.D. Journals*.* I can only say that it is a fact, and although I have tried out following living persons, I do believe that on that occasion I was divinely led, as I was doing it for charity and no charge. Be that as it may, I hope never to be asked to do another job like it.

As my twenty-two years of divining contain much of a repetitive nature, I will just sum up :—

When I am asked to go anywhere to find water, I proceed to

* *B.S.D. J.*, VI, 48, page 196.

the estate or field by bus or train, or else I am driven by someone so as to arrive on the job with steady nerves, after having chosen a period on a waxing moon. With me I have two white and black rods (thick and thin whalebone), one coloured rod (cobalt-violet), a bottle of pure water, horseshoe magnet and mumetal rod.

I get near a spot within reach of requirements, and off I go, asking spectators to keep away from me and not allow them to touch my tools until I have made my decisions; then, after much walking about and fixing pegs, I decide on a spot, test and re-test for depth, quantity and purity. After this, I like to check up my decision with information about nearby wells. If I get this information before operations, I do find it very difficult to cut out auto-suggestion. Then, after a good meal or two, fee paid, I return home, often wondering, like a doctor, "Will my patient live?" or "Am I right in my diagnosis?"

In my statement about kit I mentioned a thick and thin black and white rod.

The reason is: I go over with my thin one, and, if it reacts, I know I am on shallow springs; then, if I try my thick one, I know where the deeper ones are. I then check the thin one with the steel spring, and if confirmed by the distance between the hands, then I have confidence in giving a report.

My services have been in demand for assuring the County officials of a sufficiency when they are asked to give a 50 per cent. grant towards a farm water supply scheme.

I would also like to state that I dread to get near limestone. On one occasion I was asked to find a supply for a School, and I felt very confident of getting a supply; but alas! when I went to put down a bore the water had disappeared. We bored at five spots and found no water. In desperation, I decided to try once more, when we went through over 40ft. of "oozy" mud, but still there was no water, and so I gave it up. Later, the holes had water in them, but I could not recommend sinking a well.

Another experience I had was when we were asked to bore to locate rock on which to build a sewerage tank. When we got down to about 17ft. we heard a gurgling noise, and at 20ft. up came water and bottled marsh gas. The Surveyor lit a match, and we had a lovely fire, and he told me it remained alight for a fortnight, when the hole closed up again.

I also have found underground tunnels with the aid of an empty bottle. In fact, I am always experimenting, especially after I read an article in the *B.S.D. Journal*, or any other comments in the papers. On a dull day I locate my position with a red detector. My main locations are for shallow wells for small supplies, and nearly always I find them on top of the hills, then syphon them to the house and buildings.

IN FAVOUR OF THE DIVINING ROD

Reprinted from the Boston Traveler of January 20th, 1948, by kind permission of the writer, Mr. Kenneth Roberts, author of Northwest Passage and other notable historical novels.

In 1944 the *Country Gentleman* published an article by me entitled "The Mystery of the Forked Twig." It dealt with the finding of underground water by means of a Y-shaped dowsing rod. This article brought me a surprisingly large number of letters from readers who themselves had the ability to locate water-veins, and from persons who had benefited from the activities of water diviners and opened wells which they couldn't otherwise have had.

I must retract a part of that article.

During the first years of my experiments with water dowsers I frequently borrowed their rods, holding them in the approved manner, and walked repeatedly across the veins and springs they located; but every rod, in my hands, was unresponsive, even over spots that most violently affected the rods of true dowsers. Consequently, I took it for granted that I lacked something possessed by these gifted people. Thus, when I wrote "The Mystery of the Forked Twig," I flatly stated that a dowser's peculiar and infallible reaction to flowing underground water could neither be learned nor acquired by persons not born with it.

Early in October, 1947, Maine was in the grip of a drought, even more serious than the 1941 drought; and a pond on my farm, stocked by the Soil Conservation Service with large-mouthed bass for experimental purposes, was rapidly evaporating. Far off forest fires were tainting the northerly winds, and I began to think seriously of water.

To maintain the bass-pond, we installed an electric pump at our ice pond spring; but as the drought progressed the flow of the spring dwindled more and more, and the water in the bass-pond continued to decline. Then we attached a gasoline pump to our Roadside Spring, only to learn that its flow, too, had shrunk to a gallon a minute.

The forest fires were drawing nearer, and my thoughts began to be concerned about burnable manuscripts and books, as well as about fish.

For the sake of all concerned, we urgently needed more water. I telegraphed for a small drilling rig and, while waiting for it, scoured the farm with dowsers, hunting likely spots to drill.

Three of these dowsers were women, and the pull of their rods was more evident than in the case of male dowsers; for in the hands of all three the rods revolved, above the veins; first

forward a given number of times (depending on the depth of the vein); then backward the same number of times; then forward the same number of times. The revolutions then stopped. These dowzers were Mrs. Marian Henderson, of Wakefield, Mass., and Goose Rocks Beach, Me., Mrs. Dorothy Doe and Mrs. Kathryn Mulheron, both of Franklin, Mass., and Goose Rocks Beach, Me.

In Mrs. Henderson's case the turning was slow and reluctant, with long waits at the end of each series of turns. For Mrs. Mulheron, however, the revolutions were extremely rapid, and reversal at the end of each series of turns was instantaneous.

The day the drilling rig arrived the Federal Game Warden, Henry Gross, of Biddeford, Me., drove in to see me, bearing an invitation to a meeting of a fishing club to which he belonged.

I explained our activities to him at some length; and, thinking I detected a skeptical gleam in his eye, I added that although many people scorned water divining, I had some 17 flowing springs, all located by diviners, and that I confidently expected to bring in another in a location more convenient to the fish pond.

I also told him about the steady dwindling of the ice pond spring, took him to the spring hole, and showed him the slowness with which the water trickled back into it after being pumped out.

He seemed unimpressed, so I again spoke sharply about persons whose minds were so narrow that they refused to admit the possibilities of water dowsing. "Why," I said, "look at the scores of farmers right in this town who are hauling water two miles a day at this very minute, just because they don't believe in water dowzers! I've had over thirty dowzers on this place at one time or another, and their rods invariably dip at exactly the same spots, and we've never failed to get water when we dig where their rods point."

"You say you can't do it?" Gross asked.

"No," I said, "they never work for me. I can make a rod move by pushing my arms forward. As the muscles on the inner parts of my arm are extended, they draw the rod downwards; but nothing outside myself affects the rod in any way."

Gross grunted non-committally, went to a clump of willow shoots and cut a crotch with slender, flexible arms. "I'm 52 years old," he told me, "and when I was 12 years old I found a rod would work for me. To-day it would take me a week to write down the names of farmers I've located springs for. Whenever there's a drought, they come to me for help from all over.

"Since this drought started, I've had about four hours sleep a night, because they root me out at all hours. I thought I'd get me a little rest by coming over here to see you, but it looks as if I wasn't going to get it."

He gripped his flexible little willow wand, sprung it up into position and went pigeon-toeing around the spring, hither and yon, back and forth. His rod dipped abruptly. He took one step forward, re-gripped his rod so that it pointed straight upward; then stepped backward. The rod swung back and tapped his nose.

"Yes," Henry said, "it's still flowing, but mighty little."

He went zig-zagging off, and eventually returned to say, "You dug your spring in the wrong place to begin with. The spring comes from a vein that runs into another stronger vein 20 yards beyond the spring. Because of the drought, the vein that feeds your spring has slowed down. When the spring is pumped out, the vein between the spring and the second vein is empty. It doesn't move my rod. But this other vein is running strongly. If you dig at the intersection, you'll get twice as much water: probably more."

"All right," I said "I'll set up the rig at the intersection. But I'll have to build a platform for the rig to stand on, because this land is swampy after rain."

"Now wait a minute," Henry said. "You'll be using a three-inch drill. And this is soft ground, so you'll have to use a casing."

"If you drill a three-inch hole and sink a three-inch casing in it, you may not have a reservoir, because if your casing passes through the vein, the vein can't get into it. The water'll just flow round your casing. It can't flow through it. Let me look round a little more, and see whether I can find something better than this."

There ensued a remarkable exhibition of vein-tracking. I showed him a dome of blue rock beneath which seven dowsers had felt a strong pull. He, too, got one there; then went plunging off, through juniper thickets and bramble patches, towards our lower meadows, and the spring-house that supplies our buildings.

He came back shaking his head. "I wouldn't drill on that dome if I were you," he said, "because that vein is one of six that unite at your big spring, and you wouldn't want to do anything that might possibly interfere with it."

In another part of the meadows his stick indicated a vein unconnected with the big spring. He traced it a hundred yards up a hill to a spot not 10 feet from my kitchen door, then down hill again for another hundred yards in a series of curves and S's, eventually arriving at a spot that had always been too boggy for cultivation—a spot not more than 50 yards from our dwindling bass pond. At the moment, due to the drought, it was dry as a bone. The spot held Henry's attention. He walked around and around it, and finally announced that there was enough water underfoot to supply a couple of towns.

I took his stick, held it professionally, and walked across the spots. The stick was motionless.

"You know," Henry said, "I've been thinking about what you told me—about the rod not working for you. For some people a rod works one way; with others it works differently. With me it works downward when I'm over a vein, but I like to check the exact spot by moving backward over it. When I do that, the stick moves backward. I'd like to see you hold that stick straight up so it can move either forward or backward."

I knew it was useless: I'd tried too often; but I was glad to oblige. I took Henry's rod, walked a few yards from him, sprung the rod to an upright position before my face, and stepped forward. At the third step the rod moved slowly backward and tapped my forehead.

Feeling a little foolish for letting the rod slip so easily, I moved to another position and stepped forward, five steps, six, seven—and the rod moved backward against my forehead.

"Henry," I said, "this damned thing is working."

"So I see," Henry said. He cut another slender willow rod.

"I don't believe it," I said. "It can't be working. It CAN'T be."

"Try it again," Henry said.

I walked forward, seven steps, eight steps—the rod slapped my forehead.

"Stand there," Henry said. He walked up to me, his rod advanced. I moved aside. Over the spot where my rod had tapped my forehead, his rod turned straight down. He advanced a step; then moved backward. His rod moved backward and tapped his nose.

"That's the spot," he said. "Your stick worked just as accurately as mine, only a little differently. Look, there's three veins converging, right here. They unite and run out in a single vein—the one that goes past your kitchen door."

He showed me the spots. It was over them that my rod had turned down earlier.

I walked over them again to make sure the turning of my rod had been no hallucination. It wasn't. Again and again the rod bent backward, gently but firmly; and always at the same places.

The occasion, it seemed to me, called for some sort of celebration. Furthermore, the bank of smoke in the north was growing darker and darker. I went to the house and telephoned George Rupp, local head of the Soil Conservation Service. "George," I said, "I've been scouting around with a water dowser, and he's

located a supply of water near that pond you stocked with bass. We've got to have some water or we may lose the pond and the house, too. Can you get me a shovel and a bulldozer?"

The shovel and the bulldozer were on hand the next morning, and by two o'clock the shovel was unloaded and set up beside the spot where our rods had shown the three convergent veins. I did a little figuring and outlined an excavation eight feet deep, 15 feet wide and 30 feet long—one that I figured would hold about 75,000 gallons of water.

The shovel started to dig down through black topsoil, then through a yellowish clayey gravel, then through a three-foot-thick layer of ancient sea shells mixed with clay. Then we saw the veins our sticks had felt. From three small areas in the layer of prehistoric sea shells oozed trickles of water, two of them unimpressive; one persistent, a small stream, like that which runs from a half-opened faucet.

We had to stop that day because the pall of smoke in the north turned to a terrifying wall of flame, and we had to run the digging equipment to the middle of a field and leave there while we went off to protect, if we could, our respective homes.

When the fires had burned themselves out, the shovel and the bulldozer went back to work again and the hole was finished as planned. It was a generous pool with a bottom of tough blue clay, filled with water to within two feet of the top, and from it a constant stream, notwithstanding months of drought, ran through our meadows. The bulldozer spread the heaps of clay, sea shells and gravel smoothly, and symmetrically around it, and we had a pool and a dry meadow in place of the former bog-hole.

Two incidents are worth recording. Some years previous we had drilled to a vein and knew the vein to be 18 feet deep. Since it passed under a tarred road, it presented a good experimental ground for testing depth measurement. One of the methods of discovering depth is to stand over a vein, take a fresh grip on the rod, and walk backward. The rod dips again when the diviner is as far from the spot as the vein is deep. I hunted for the vein, and duly found it. Henry found it at the same spot. We tried for depth, and our rods agreed on 18 feet.

By the side of the road I had tossed seven other sticks, which I had cut to see whether the pull varied with different woods. I picked up the seven, put them under my arm, and went feeling for another vein I knew to exist. I couldn't find it. My rod wouldn't work. Henry came along after me, and his rod dipped instantly. The vein was eight feet down. My rod refused to turn. I went back to the 18-foot vein and felt for it. I couldn't feel it.

"Henry," I said, "I've lost it. It won't work."

"Do you suppose those other sticks under your arm have anything to do with it?" Henry asked. "Try putting 'em down."

I tossed them by the roadside, and again tried my one stick. It worked. It worked everywhere.

* * * *

"Henry," I said, "Why don't these sticks work over a covered drainage ditch, or a sewer pipe?"

"They do," Henry said.

"No they don't," I told him. "Lovejoy tried his stick over our main drainage pipe, four feet underground, and his stick never moved. Look here: I'll show you."

I took him to the covered ditch, upended my stick and started across it. Above it my stick moved back against my forehead.

Henry laughed. "They always work over a pipe or over a culvert if water's running in 'em," he said. "I traced a whole drainage system for a factory in Biddeford. Followed every pipe in the system and made a map of 'em, and the factory dug 'em up. There's a culvert up by your new pool. Go on over there and walk across it, and see what happens to your stick."

Henry was right. The rod turned over the ditch, just as it had over veins.

* * * *

"Let me show you something else," Henry said. "Do you know where there's a vein that goes under the road—one that I don't know about?"

I knew of such a vein only too well, for it was responsible for a soggy area that had been a thorn in my flesh for years. "All right," Henry said, "you run me along the road in your automobile and let's see what happens."

He climbed in the front seat beside me, holding his rod as usual, and drove out of my gate and along the road to Kennebunkport.

Abreast of the wet spot in the meadow, at that time dry because of the drought, Henry's stick suddenly tilted downward. "Stop and back up," he said. "Make it slow."

When I backed up slowly, Henry said, "Stop!" His rod had tapped his forehead.

"There's the vein," Henry said, "right under us. Yet some people say a dowsing rod won't work if you have on rubber boots, which is nonsense. You've got on rubber soles, haven't you?"

I had.

"And isn't this automobile insulated from the road by rubber tires?" he demanded.

It was.

* * * *

I have read that water dowzers lose their dowsing power if operated on—for appendicitis, for example. No greater nonsense was ever written. Raymond Lovejoy, county agent for York County for 25 years, is an expert dowser who has located several springs on my farm. His son, Captain Robert Lovejoy, who was commissioned as a pilot by both the Army and the Navy Air Force, is also highly sensitive to the pull of underground water.

At the end of the war, when Captain Lovejoy was stationed on Okinawa, some of his friends cracked up on a nearby island whose air-strip had been abandoned. Although the strip was considered too dangerous for landing, Lovejoy volunteered to fly a rescue-ship.

He landed safely, but before the plane stopped rolling one of the wheels struck a hole, and the ship crashed and caught fire. Captain Lovejoy, severely burned and injured, lost an arm. When he heard that an operation destroyed a dowser's sensitivity to underground water, he experimented, clamping one leg of the dowsing rod to his false hand and gripping the other leg with his sound hand. The rod responded as strongly as ever.

* * * *

On the day after my experiments with Gross I picked up the flexible twig that had worked so accurately for me on the preceding day and took it to a vein to show a visitor this strange new accomplishment.

To my distress, the rod refused to work. The visitor, embarrassed, felt sorry for me. Then I remembered that Henry said he invariably used a freshly-cut rod whenever he set out to do any dowsing. I cut a fresh twig of flexible willow, returned to my embarrassed visitor and tried it again. It worked perfectly. The visitor thought I was nuts.

* * * *

My faith in this newly-acquired ability to use a rod was severely shaken a week later when I took the dogs for a run and, on leaving the house, cut a fresh willow crotch just for practice.

I held it before me as I went down the rocky path leading to the lower meadows, and was annoyed when the stick almost immediately moved backward and tapped my forehead—and, what was worse, continued to tap it in the same way every third or fourth step for a matter of 20 yards. This, I suspected, was ridiculous, and I was sure of it when I retraced my steps and found the rod doing the same thing in the same places. I no sooner got it into position than it bent backwards and tapped my head.

I called my farm foreman, Donald Bryant, who, three years previous, had found that he had the knack of water dowsing

after watching another experienced dowser, Raymond Lovejoy, our former County Agent. "See if you feel anything around here, Donald," I told him.

Donald cut a twig and started along the path I had been following. His rod dipped at once and continued to dip exactly as had mine.

I tried again. The same thing happened.

Still dissatisfied, I telephoned Henry Gross, who appeared an hour later.

"Henry," I said, "that rod acted mighty queer for me this morning, and I just don't believe it. I wish you'd take one and walk around that section in front of the house."

He went haltingly across it, backing and filling; moving forward, then backward. He worked up and down the meadows, and I walked behind him. The action of our rods was almost identical—almost, because we made an unexpected discovery.

My rod and Bryant's rod work over spaces where a vein has spread out, underground, and saturated an area. Gross's rod works only backward over such an area; never forward.

"Anyway," Gross said, "this shows you why you have wet meadows! There must be six veins coming out from under that hill. They come together in the depression by the oak tree: then split again and flow under the meadows, under the drainage ditches: then ooze to the top. That's why your rod acted so strangely."

I was leaving Maine in a few days to work on a book; otherwise I'd have called the shovel back and put it to work on those converged veins with complete confidence that the shovel would uncover the water that had so unmistakably affected me.

If it's ever dry enough for me to get another shovel onto the land I'll excavate the spot where those veins converge, for I know now that my rod is as accurate as Gross's. What's more, I'm almost certain that every one—man, woman or child—is somehow sensitive to the movement of water beneath the earth's surface, but that in many cases a little ingenuity must be used before that sensitivity can be felt or shown. Perhaps I'm unduly credulous, but I truly believe that O. E. Meinzer of the U.S. Geological survey, who stated publicly in a government bulletin that water divining is "thoroughly discredited," or Professor Ray Koon, who has dubbed it "hokum," might find that even they could use a rod, and thereby add to the well-being of the soil and those who till it.

I will welcome letters from readers who are aware that they are affected by underground water through the medium of a forked twig. Sometimes a group of determined amateurs can find a way to correct the stubborn resistance of specialists who lean too heavily on text books—or never read enough of them.

IN MEMORY OF M. BOVIS

BY NOEL MACBETH

A good number of B.S.D. members appreciate apparatus created by the late A. Bovis, of Nice. In memory of this prominent contributor to knowledge dealing with radiesthesia, it would be pleasant to have on record in English a description of the way in which M. Bovis's best-known pendulum, the "Paramagnetic A.B.", is used, and also a short description of the pendulum's general appearance:—

The pendulum's prominent feature is a pair of glass beads moulded with many facets. The bigger bead being at the top, the two are fixed to a steel shaft in such a way as to have a point below and a red or orange insulating cover for two-thirds of the steel shaft remaining above the beads. The whole is suspended from a 10cms. long shank of violet or mauve silk, knotted four times. For reasons with which students of Turenne's experimental data are familiar, the base of the whole apparatus is predominantly red, whilst the top is violet.

The manner in which the Bovis pendulum is used can best be described simultaneously with Bovis's terms of reference accompanied by examples of the way in which this automatically tuned pendulum moves over various substances. The pendulum moves in four directions related to the specimen examined and to the cardinal points of the compass. The pendulum bob can be seen to move:—

Lengthwise, called (+) and N-S

Over copper, iron, tin, lead

Over the palm of male hand aligned N-S; but over woman's finger nails

Over a fertile egg

Over the (+) pole of an electric battery

Across, called (—) and E-W

Over silver, platinum, mercury

Over a non-fertile egg

Over the (—) pole of an electric battery

Anti-clockwise, called "mixed-positive"

Over the back of a male hand, male things, but over a woman's thumb nail

Over a mixture of (+) and (—) with (+) predominating, as produced by uranium

Clockwise, called "mixed-negative"

Over the back of a female hand and everything that is female, but over a man's thumb nail

Over aluminium, nickel, gold

Over water

IMMOBILITY

The pendulum does not provide movement in any of the above directions:—

- Over an egg which has been preserved in lime water
- Over a seed which has lost its fertility
- Over a part of a human body that is rheumatic
- Over a scar
- Over a substance described as producing less than 3,200 Angströms on a Bovis Biometre (Rule).

EXAMPLES

Diamond : The usual effect is Bovis (+) but the facets can create all effects.

Egg.—Have the egg point north; the egg must be opposite the centre of one's chest while the diviner sits facing north.

Sex-detection before birth of a child. Observe the results:—

- (a) When the pendulum is held in front of the mother's sternum (central bone of the chest).
- (b) When the pendulum is over the palm of the mother's right hand (corresponding to a woman's abdomen and sex organs).
- (c) When the pendulum is held opposite the right side of the standing woman's abdomen.

In all such places the sign of Male mentioned above is abnormally found if the future child is to be a boy.

On the Bovis Biometre, for the place over the abdomen of a woman who is pregnant the length of field is more than elsewhere over her body.

HUMAN AND ANIMAL SICKNESS

The usual effects produced on the pendulum are replaced by reversals of movement as soon as the pendulum is held opposite an ailing part of the body.

Over a hand there are places nervously connected to certain parts of the body. Bovis gives details by a chart of the hand.

Roughly, these are the indications:—

RIGHT HAND			LEFT HAND
Thumb	—head,	R-side	same, L-side
1st finger	—lungs,	R-side	same, R-side
2nd	„ —liver	stomach
3rd	„ —kidney,	R-side	same, L-side
4th	„ —abdomen	abdomen

WATER DIVINING—WITNESSES

When any metal sample is lying on the palm of one's other hand, the pendulum is motionless except over a substance which

is the same as the metal acting as a selecting "witness," or influenced at a distance by a metal the same as the witness.

The pendulum, Bovis claims, will indicate the direction of an underground stream 10 kms. away (six miles)—presumably when the diviner holds water (like metal above) in the other hand. Bovis adds: "The pendulum oscillates 'parallel to the stream,' and gyrates when the water is underneath. As the diviner's hand or body can mask the radiations coming from the water, it is easy to make a test showing in which direction the water is situated, i.e., in which direction the diviner should walk to reach it."

Still pools of underground water are defined by finding effects while the hand holding the pendulum is opposite one's right knee.

Cavities, subterranean caves are identified by the result of placing an empty bottle on the palm of the other hand (? corked).

OTHER BOVIS APPARATUS

Radioscope: for analysing radiations of things like butter or oils for purity.

Magnetic Table: for obtaining from one's "subconscious reactions" information about depth of stream, quantity of water; answers to "psychic" problems.

Biometre: for getting the depth of streams and of earth strata below the earth's surface. For measuring the vitality of animal organs and of seeds in Biometre units considered to correspond to Angström wave-lengths.

For showing the percentages of alcohol in liquids.

Bioscope: placed on a hand or on a hand's imprint, it indicates the vitality of each organ represented by a filter (witness).

Dosimetre: indicates the suitable dose of a medicine; or a colour or metal suiting a person. *The Twin Dosimetre* (Jumelle) shows the food value of a sample and the person's ability to assimilate that food.

Radiographe: shows the radio-activity of each thing between 0.0001 micron (1 Angström) and 1 micron (Biometre).

"*Radio*" *pendulum*: is used with the Radiographe. *Dextrogyre* is a little oscillating circuit which replaces the energy of the magnetic human hand. Used with the "Radio" pendulum it produces a magnetic current shown by 2,400 degrees on the Biometre (5 degrees equal one centimetre on the Biometre).

(A free translation of Bovis's working instructions with a few remarks—in brackets—added by the translator).

THERMAL EFFECTS OF QUARTZ

BY HILARY STANTON BARNES

One evening, whilst staying with a friend, I was looking at some samples of crystal quartz and fluorite, when I became aware of a tingling sensation in my hand and forearm. I realised this must be caused by the radiations from the stones and asked my friend to hold one. As she felt nothing, I held a crystal in my left hand and took her hand with my right. In about thirty seconds she was conscious of a tingling which crept up her arm to the shoulder. She remarked that it would probably go no further, as, for years, she had rheumatism in her shoulder. Thinking she might gain some benefit from the radiations, I placed my right hand on the affected area. There was a congested knot which could be felt with the fingers. Almost at once intense heat was felt in this area both by the patient and myself. If I put the stone down, the heat gradually faded away, but when picked up again, the heat at once returned. We continued this treatment for the rest of my visit, about four days. The patient had about half-an-hour's treatment each evening. She suffered from insomnia and found that, as well as the relief to the shoulder, she also slept well. She had recently had a septic toe, which, although healed, had left the foot very painful. I held the foot in my hand for fifteen minutes: the pain was completely relieved, and did not return.

About a month after this experience a member of my family complained of an upset liver. There was much pain, especially under the right shoulder blade. Using a rose quartz pendant, I treated this area. There was again the sensation of heat, but this time I could feel a definite movement within the liver. The patient had a violent attack of flatulence, which gradually abated, until within twenty minutes she was free from pain and the area had become cool. During the night she awoke with pain in the gall bladder, but by morning this had gone.

My next chance to experiment came when a neighbour complained of lumbago. Although slightly sceptical, he allowed me to treat him. I used an uncut rose quartz pebble. The result of immediate heat was as before, and the patient described it as comparable with an infra red lamp. He was so impressed that he returned for three more treatments. After the second the congestion seemed to be split into separate areas, and after the third was diffused around the area where the pain had started. At the last treatment the heat was very slight, but on all occasions the patient could feel tingling, both in the area treated and down the leg.

One evening my mother had an acute rheumatic pain in the knee; this was dispersed in about fifteen minutes, and has not returned.

I have also had considerable success with a delicate patient. She had been unable to sleep for two weeks with a pain for which the doctor could find no cause. This was cured in four treatments.

NOTES AND NEWS

The Reception this year was held on April 14th at 11 Chandos Street, and was attended by about 50 members and their friends. Amongst the latter were Dr. and Mrs. Maury, of Paris, who added much to the success of the afternoon by demonstrating the use of their new electrical apparatus for creating a magnetic field whereby dowsing sensitiveness can be controlled. Our thanks are due to them and to other members who were kind enough to give demonstrations of various kinds.

* * * * *

The following translation of an extract from a book called *Der Streifzug ins Ungewohnte*, by Willy Schrödter, is quoted in support of the surprising statement in the article, *B.S.D.J.* 58, by Magda Feldhuss, entitled "An Invisible Biological Radiation and its Secondary Effects," that photos produced by this radiation showed the corresponding colours of the vessels containing the objects:—

"While mentioning the results of Dr. Alexander Hermann's investigations, we must refer to the experiments of Dr.(vet.) W. Laue, of Berchtesgaden-Königsee, who, in spite of his heavy losses in the world war, has been quietly working in his spare time, at great expense, in the sphere of the invisible biologic vibrations.

He has succeeded in registering these invisible biologic vibrations by means of a photographic plate, without the use of a camera, and actually—here is the novelty—in natural colours, not only black and white, but tinted. For his objects, with a true instinct, Laue started out from blood as a 'definite life-juice,' for blood is a source of life-force.

Magda Feldhuss, collaborating with this indefatigable investigator, now exposed the plates to horse-blood, both pure and mixed with yeast. Examination of the results of these exposures showed further the astonishing result that certain negatives showed the actual colours of the vessels in which the objects were contained."

A further example of the efficacy of potato for curing or alleviating rheumatism is provided by Mr. J. L. Taverner, formerly a member of the Society. About 10 years ago his right arm was badly affected, and having heard of potato as a cure for this affliction, he adopted the habit of carrying three or four small pieces in different pockets on his right side, removing them when they were dried up. After several months the rheumatism had left his right arm, but reappeared in his left. He therefore took to carrying potato in pockets on both sides, with the result that the rheumatism completely disappeared. On account of illness, he neglected to carry potato for about three months, and has found that his legs are now being affected.

During February reports appeared in several papers, e.g., the *Daily Telegraph* of 10th and *Buckinghamshire Herald* of 18th, of the finding of the body of a three-year-old girl by Mr. G. M. Adams, of Aylesbury, and more information has been provided by Mr. Adams himself in a letter to Mr. MacDonald (B.S.D.). The child, Janet Clare Brooks, who had been playing with other children, disappeared on the afternoon of February 1st. The police failed to find the body by dragging the nearby River Thame, and on February 9th, eight days after the child's disappearance, Mr. Adams, who is an amateur diviner, 78 years of age, offered his services. Using a whalebone rod and taking a pair of gloves and a petticoat as samples, he started from the point where the child was supposed to have fallen in and traced a course for about half-a-mile down-stream to a point on the bank opposite which the body was recovered.

* * * *

In the *Northern Daily Telegraph* (Blackburn) of April 6th, there was an article about Mr. Frank Eccles, of Mellor, senior accounts clerk in the Blackburn Borough Engineer's Department, who, using a twig of holly or willow, demonstrated his power as a dowser to an interviewer by discovering coins time after time with his eyes shut.

* * * *

The *Star* of April 19th contained a picture of Miss M. R. Denton holding a forked twig. It was stated in the *Contractors Record and Municipal Engineering* that she plotted the course of a culvert in an area of ground at Hollinwood, near Manchester, where a factory is to be built, thereby saving much time and money.

* * * *

As reported in the *Daily Telegraph* of April 20th, a Johannesburg Court has awarded £1,000 damages to Mr. F. M. Alexander, founder of a method of psycho-physical treatment, for libel by Dr. E. H. Claver, Director of the South African Institute of Medical Research, Dr. E. Jokl and Dr. M. Clark, co-editors of *Manpower*, articles in that paper having implied that Mr. Alexander's technique was scientifically "contemptible and nonsensical."

* * * *

The *Scarborough Mercury* of April 23rd contained an illustrated article headed "The Youngest Water Diviner?" It tells of eleven-year-old Ronnie Carter, of Linglands Farm, Cloughton. The picture shows him holding a two-foot hinged brass rule as a divining rod, which he used effectively for finding drain pipes and silver coins.

* * * *

In the *Daily Telegraph* of April 26th there was a description of Isaac Slack, a West Country water diviner of county-wide repute, locating water for a new cottage. He started dowsing when he was twelve years old.

LETTERS TO THE EDITOR

LINDERTIS,

KIRRIEMUIR, ANGUS.

April 19th, 1948.

Dear Colonel Bell,

I was interested to read of Mr. Watson's observations of the action of the pendulum over different types of food. I have noticed very much the same thing happening—the stronger the food the stronger the gyration of the pendulum. With me it goes on continuously, and not just for a limited number of gyrations.

I found that done in this way it gave the same result for, say, roast duck as for a poisonous fungus. So I tried testing food by comparison. That is, when the pendulum is swinging over the poached egg transfer it to above your own hand, palm upwards. The resultant swing seems to give you an indication of the effect the egg would have on you if you were to eat it.

I have calibrated these movements, from oscillation which is neutral, or 0 up to +6 on the good side, and down to -6 on the bad side, which is rank poison. With me, clockwise gyration is plus, anti-clockwise is minus, while oscillation is neutral. Of course, if the dowser knows he is allergic to a particular food, it would have to be tried out against another person.

Here are some of my results:—New-laid Egg, +6; Roast Aylesbury Duck, +4½; Same Duck, second cooked, +3; Fresh Milk (good quality), +4; Butter (made from this milk), +5; Corned Beef (tinned), +1½; White Bread (present day), 0; Petrol-lighter Spirit, -3; Laurel Leaf, -4; Sprig of Yew, -6.

I find that this method gives good results with water, either in a jug on the table, underground "in the field" or underground when dowsed on a map.

Yours truly,

TORQUIL MUNRO

PINEHURST,

HILLBROW,

LISS, HANTS.

March 8th, 1948.

Dear Colonel Bell,

There are two points in Dr. Maury's interesting lecture to which I should like to refer.

My enquiries through the pendulum indicate that my results

obtained from a signature of a complete stranger, who may be many miles away, are not in any way psychic. It is indicated that the patient's vibrations are picked up by my mental aura eventually resulting in muscular movements of the hand holding the pendulum, and that my unusual sensitiveness is due to a very long illness which I had some years ago.

Dr. Maury refers to certain people who only get reactions with their pendulums when not looking at them, or only through red filters. My own reactions are exactly the reverse of this; I can get nothing with my eyes closed.

And now may I refer to Mr. G. C. Watson's letter? My own tests entirely agree with his, though my indications are different. I obtain food values from zero to 100%, and below zero to harmful and poisonous, and above 100% to curative. There are slight variations for most people for many foods, but for a few people there are some great differences. Honey is usually 100% or curative, but occasionally is poisonous. For the average person meat foods, that is from four-legged creatures, are between 25% and 50%, never above 50%. For a few they are poisonous. For nearly everyone chicken is 50% and white fish 100%. Wholemeal flour is 100%, but wholemeal bread made by bakers is only 50%. This is due to bread containing .8 to 1% ordinary salt. (*Food: Hutchison and Mottram*). Most people are prepared to modify their diet in the cause of better health, but very few are prepared to cut out salt. This set me the problem a few years ago of changing table salt from zero, and in cases of T.B. lungs and kidney trouble from poisonous, to 100% and curative. With the pendulum I eventually worked out a series of other salts to be crystallized, in minute quantities, with table salt, to produce these results. Wholemeal bread then reached 100%, and other low-test foods were correspondingly increased in food value.

All refined foods are indicated as zero. White sugar is zero to injurious. Brown sugar, being partly refined, is 50%. Dark treacle and honey are 100% to curative. Polished, unpolished and brown rice are respectively zero, 50% and 100%.

When my kitchen authorities are doubtful about the condition of fresh (?) or tinned foods, I test them with the pendulum, and have never been let down. Even the most important member of the household, the cat, has any questionable food tested, and often, when she has refused food, it has proved to have "gone off."

Yours faithfully,

O. H. BROWNE

REVIEWS

THE STORY OF WATER SUPPLY

By F. W. ROBINS. O.U.P., 1946, 18/-

Anyone who takes an interest in the development of civilisation cannot fail to be interested by this attractive book. It is in no sense a technical work, and contains nothing calculated to bore the general reader. It is a comprehensive but necessarily somewhat superficial account of the methods used for supplying water throughout the world, from China to Mexico, starting from the earliest times. Ample references are given to the sources of information, and the book is illustrated by half-tone reproductions of 26 photographs and several line drawings. Amongst the subjects dealt with are dewponds, primitive wells, the old Roman aqueducts the kanats of Western Asia, better known to some of us as karezes, the waterworks at old London Bridge, the conduits of the New River Company, and so on.

It is interesting to learn the great extent to which lead pipes were used in Roman times and that a Roman force pump was actually found at Silchester, and is now in the Reading Museum.

In a chapter on Water Divining, the author tells us nothing new, and the most recent book mentioned was written over 50 years ago. However, he says that he is "only concerned to cite details given to him personally," and amongst other episodes describes a demonstration given for his benefit by Mr. David Kitcher on the Beaulieu Manor Estate.

A.H.B.

BAGUETTES ET PENDULES.

By Dr. Jules Reynault. Payot, Paris; 660 francs.

In an introduction, the author tells us that he has been familiar with the divining rod and pendulum from the age of six, when he began by imitating his father searching for water on his Normandy property, that he had attended, and often presided over, numerous international and regional congresses, conducted inquiries, collected a library, written many articles himself and made endless cuttings on the subject of dowsing, medical and otherwise. He adds, significantly, that this book, record of these experiences, has necessitated 10,000 gross of depressions upon the keys of his typewriter.

Yes! We may rightfully expect that the doctor has produced an extremely useful reference book, containing a vast amount of minute detail, amplified by quotations and expert opinions, and well illustrated with diagrams and sketches. Every phase of the subject, practical and theoretical, seems to be dealt with. The first seventy pages are devoted to history, and he begins well back, twenty-two centuries B.C., with the Chinese; and not

forgetting, in passing, the ninth and sixth centuries B.C., when Hosea and the prophet Ezekiel had something to say about it.

In a chapter headed "The Instruments," among the rods mentioned is one embossed upon a silver medal struck in 1719 for the marriage of the Elector Prince Frederic with the Princess Josephine of Austria, the rod being held by a winged cupid. In early times, seemingly, considerable ceremony attached to the production of a divining rod. A Baron de Beausoleil declares that it should be cut at sunrise in July, August or September on a Wednesday, the day of Mercury, who is always depicted holding one. Others insist upon regard for astrological conditions.

When it comes to describing pendulums, we are told that in 1936 there existed 3,000 different models. Some are illustrated. One, I notice, made especially for the author, has a glass weight containing mercury, and we are told that teleradiesthetists have adopted this for their researches into map-dowsing. Some pendulums illustrated appear very complicated and carry queer designs, Chinese and even nightmareish. Consideration is given to pendulum length, and formulae are offered involving time and length of oscillation, mass and moments of inertia.

An interesting pendulum is that termed the Electromagnetic Augarde, named after and designed by a commander of the liner *Normandie*. In shape it is like an inverted U, through one of the uprights of which towards the other passes a screwed rod bearing a disc. The second upright is expanded to equal the surface of the disc where they might meet. A micrometer device is said to permit the distances between the two surfaces to be measured to an amazing accuracy of .01mm. As the suspension thread of the pendulum is attached off centre, making the appearance lopsided, one might think from the illustration that the purpose of the device was to correct the balance, and wonder why such complication.

In reality, the device is a condenser, in modern parlance, a capacitor, and the purpose of the pendulum seems to be to employ colours as witnesses to indicate a kind of resonance between the colour values measured in millimicrons and the high octaves of those wavelength amounts that function in wireless receivers and wavemeters. For example, the colour green quoted as 520 millimicrons is made to respond to 17.45 metres declared to be a 25th octave of the wavelength of the shade of green. Seemingly stacks of fixed capacitors are also used in these operations.

Perhaps some day it may be found possible, by somewhat kindred methods, starting from a colour wavelength, to resonate with the lower octaves of that wavelength, and in so doing chance upon that evasive band of frequencies, if such there be, that our radiesthetists seek but have yet to find.

There are chapters dealing with radiobiology, earth-rays, underground water, teleradiesthesia and the theories of how

and why, what you should eat and drink, and the clothes you should wear. I sought for wisdom about polarity, and, sure enough, Dr. Regnault did not disappoint me. He tells of an experiment he conducted at the International Congress on Radiesthesia at Avignon in 1932.

He placed a patient facing north in circuit with a microammeter, and then brought towards the patient's 7th cervical vertebra the positive pole of a bar magnet. The needle of the microammeter at once responded, whereas when he repeated the experiment, but using instead the negative pole, there was no response. Then he substituted for the magnet the fingers of his own left hand, and obtained a similar deviation to that produced by the positive pole of the magnet. The fingers of his right hand produced no such effect. From this the doctor deduced that his left hand has negative and his right hand positive polarity.

This experiment may well be tried over here, where there are well-qualified medical radiesthetists who base their work on the belief that the right side of the body is negative and the left positive. But this is a complex subject upon which much could be written and contrariwise argument aroused.

W.E.H.H.

THE SECRET SCIENCE BEHIND MIRACLES

By Max Freedom Long. Kosmon Press, Los Angeles, U.S.A.

This is a fascinating, and to some it must appear a fantastic, book. When schoolmastering in Hawaii, the author became aware of occult practices carried on by the kahunas, the remaining magical practitioners of an ancient sect. There were apparently at one time twelve kahuna tribes in North Africa, who helped by their magic to build the Great Pyramid. Foreseeing a period of intellectual darkness and to avoid the danger of losing their art, eleven of these tribes migrated to the Pacific. It was only through long research and study of the root-meanings of words used by the kahunas that the author discovered the secrets of their powers. In many ways their knowledge was in advance of modern psychology, and it can undoubtedly contribute much even now to a better understanding of the science. Aspects of it suggest a theosophical approach, while the magical practices made (and continue to make) full use of powers derived from the spirit world.

In contradistinction to so much of what has been written on psychical research, the author is able to give precise explanations of the factors underlying kahuna philosophy and practice. According to the kahunas, man has three souls or Selves, all clothed in their spirit bodies—the Subconscious or Low Self, which has an intellect akin to the animals but which fulfils the function or memory, the Conscious or Middle Self, in which normal human

intelligence as it is generally known resides, and the Superconscious or High Self, which normally resides outside the physical body and is in contact with other High Selves. This latter acts as a sort of guardian angel, of which little is known. Next we find that the practice of magic predicates *force*, said to be of an electrical nature. We are told that "vital force" could be stored by a Berber kahuna in wood, stone, water and the human body—also in the invisible body of "a ghost." This force can be expended suddenly and thus move heavy objects. At one time the kahunas held heavy wooden sticks in their hands, and, by an effort of mind, caused bodily electricity to enter a stick and charge it heavily. These sticks were thrown at the enemy in battle, and on contact with the sticks even the strongest warriors were often rendered unconscious.

One of the most striking statements in the book is that the Subconscious or Low Self is clothed in an etheric body of shadowy substance which is connected to things once touched by thousands of tiny invisible threads, which in psychical research have been both seen and felt physically. It is held that these strands, which can be projected by the Low Self when in search of information, comprise the link in the transference of knowledge as in psychometry, i.e., clairvoyance, prevision, crystal gazing, &c. One gathers that it may be through the subconscious etheric body or its attenuations that psychic dowsing works.

Some good examples of fire-walking are recited, and it is said that the superconscious part of the mind is the consciousness involved in fire-immunity. What is truly astonishing is a detailed case of the "death-prayer," where a Hawaiian was being done to death by a kahuna, but was saved by a white man turning the tables on the kahuna and causing his death. Here the kahuna employs isolated Low Selves or subconscious spirits of (probably dead) Hawaiians and commands them to enter the body of the victim and drain him of his life force. But first, vital energy is transferred to the spirits so that they can do their deadly work. Incidentally, poltergeists are said to derive from dissociated Low Selves. A very different and remarkable case is given of dual personality in which the body of a young woman was inhabited every alternate four years by one of two personalities. Under hypnosis both spirits appeared and could be questioned.

With regard to foreseeing the future, according to the kahunas the High Self is able to see those parts of the future which have become crystallised or "set." Great world events appear crystallised farthest in advance. Within certain limits the Low Selves retain the exercise of free will. An instance is given, similar to one known to the reviewer, where personal injury in a motor accident was avoided by premonitory warning. The kahuna philosophy of predestination would seem to agree very

much with that of the astrologers. The psychic mechanisms involved in crystal gazing, thought-reading and various forms of healing are discussed, not excluding cases where persons have been raised from the dead. There is much to suggest explanations as to the mechanisms at work in the more debatable forms of radiesthetic work. It is to be noted that in ultra-sensory perception the necessity for a relaxed state of mind is enjoined. Perception of this kind is realised not by will power but through the Low Self *via* the projection of its etheric cloak.

Some highly important chapters deal with kahuna beliefs as to the relationship between health and the states of the Middle and Low Selves, the attitude towards sin and the healing procedures carried out on kahuna principles; these latter invariably include the transfer of vital "human" energy or life force. It has been found in kahuna experience that trouble may occur through interference from outside by spirit bodies, and in cases of mental instability emphasis is laid on the possible displacement of one or more of the Low Selves in the physical body by marauding spirit entities. Perhaps we have here for the first time the true significance of shock treatment in dealing with the insane.

The whole volume is an objective account of kahuna precept and practice, supported by many actual cases, with conclusions which appear quite justifiably drawn. Whether or not it can be accepted in its entirety, the reviewer is convinced that it should be read by every psychiatrist, and should not be missed by religionists of whatever colour. It can safely be said that new light is thrown on the mechanisms of spiritualistic phenomena.

Not least, it should assist the radiesthetist to a better understanding of his potentialities and powers.

V.D.W.

REVUE INTERNATIONALE DE RADIESTHÉSIE, No. 6

This number is confined to Medical Radiesthesia, and all the contributions have been provided by qualified doctors.

It opens appropriately with an article by the well-known pioneer of medical dowsing, Dr. Jules Regnault, entitled *Origine et Evolution de la Radiesthésie Médicale*. There follows:—

Médecine Officielle, Médecine Radiesthésique, by Dr. A. Valmyre.

Points de Vue Physique, Physiologiques et Psychique en Radiesthésie Médicale, by Dr. A. Leprince.

Radiesthésie et Médecine, Choix ou Alliance, by Dr. A. Ladon, who, unlike most practitioners, is of the opinion that the two methods cannot be used together.

La Conclusion d'un An de Pratique Médicale Radiesthésique, by Dr. de Nayre, a recent convert. He is a believer in homoeopathy, and describes two interesting cases of cancer.

Homéopathie et Radiesthésie ou la Désirable Entente Cordiale, by Dr. A. Roux.

The next 34 pages, headed *Méthodes de Radiesthésie Médicale*, contain descriptions of their own methods by 16 doctors, the contributors being Ester Bonomi of Genoa, Andrée Besson, F. Bouche, A. Charvin, M. de Werra, "E.D.", V. Grassi of Parma, P. Juchet, C. Larvaron, H. Martinet, E.A. and Mme. Maury, R. Moreau, A. Nebel, A. Roux of Vichy, Roux of Laroque, A. Valmyre.

Dr. Maury describes the use of his new detecting apparatus (*méthode D.T.T.*), which has been seen by some of our members in London.

In *Réflexions sur les Méthodes*, "D" draws attention to certain points in these descriptions. He pays a tribute to the courage of the contributors whose "will to heal has triumphed over the fear of misunderstanding, sarcasm, even accusations of charlatanism." He notes a certain mistrust in the empiricism of orthodox practice, but no claims to the superiority of the radiesthetic method, the two being regarded as supplementary. Nevertheless, in diagnosis radiesthesia has the advantage of being more fundamental and more immediate in its power of detection. He refutes the objection that radiesthesia is liable to numerous causes of error, as almost all the contributors use the traditional clinical examination in addition. He comments on the value of the diverse methods described, and quotes a significant remark of Dr. A. Roux to the effect that he has long ago abandoned the use of samples, his results being just as good without them. Most of the doctors work on the patient direct, but some prefer to work over samples. Instruments vary, from the simple pendulum of Dr. Martinet to the D.T.T. of Dr. Maury, but the impression is that experience leads to a desire for simplification.

Other articles are :—

Diagnostic et Traitement à Distance, by Dr. M. de Certant, who works entirely by samples and *orientation mentale*, paying no heed to position and surroundings.

Diagnostic et Traitement par les Couleurs, by Dr. A. Leprince.

Les Ondes Nocives, by Dr. C. Larvaron, who postulates two origins, cosmic and purely terrestrial.

Radiesthésie et Hormones, by Dr. E. A. Maury.

Anomalies de la Polarité et Médecine, by Dr. Benvegni-Passini.

Radiesthésie et Pharmacie, by G. Lesourd, describing how the chemist should co-operate with the doctor in helping and healing the sick.

Radiesthésie et Chirurgie Dentaire, by R. Moreau.

Note sur la Liberté de Diagnostic Radiesthésique en France, by Ch. Brouard, Avocat à la Cour de Paris.

Much of the contents of this excellent number is of a highly technical nature, and cannot be adequately dealt with in a review. Any member who requires detailed information should borrow the *Revue* from the B.S.D. Library.

A.H.B.

RADIESTHÉSIE POUR TOUS

DECEMBER, 1947

p. 269. Leader: In 1947 subscribers received 300 pages of information.

Plants whose roots are kept damp with water subjected to short waves selected radiesthetically, show new leaves more quickly and withstand the effect of a very dry summer. Irradiated water also had an effect on mould, tested by samples of bread-crumbs. The conclusion is that the pendulum will select the suitable short wave frequency in both cases. By R. Robert.

p. 274. The legal position of medical radiesthesia in Belgium. By M. J. Charlotiaux.

p. 283. Influences of Geometrical Form. A point, a circle and a cross are discussed. By F. Servranx.

p. 285. Dr. Naret's method of medical diagnosis is based on mental conventions. By Pierre de Bondy.

p. 287. Influences of colour cards during tests of health and of temperament (continued from November). By A. L. Cotte.

p. 291. The Beginner's Corner. By N. Macbeth.

p. 294. Map-reading competition. Four out of 31 amateur competitors were at least 50 per cent. correct as regards details to be furnished about an underground stream flowing near some underground caves.

JANUARY, 1948

p. 3. Communication of thought with the help of radiesthesia. Two circles with letters around their edges are used. Initial experimental work. By Paul Haviland.

p. 7. Article on the Electro-magnetic *Détectomètre* invented by Dr. and Mme. E. A. Maury.

p. 11. Single rod detectors, with coil at one end and a bead at the other. A development of Fr. Padey's *Canne-antenna*. By Marcel Perreaux.

p. 14. Map-reading success with the I-F-A pendulum, the bob of which contains a substance which absorbs the influences produced by the photo of a lost person. Police testimonials. A review of an article in *Die Tat*, Zurich, of November 10th, 1947, on the invention, by M. Schaeppi of that city.

p. 17. A few thoughts on influences of geometrical form. By Pierre de Bondy.

p. 19. Geometrical forms are ideograms whose effects are based on the diviner's conventions and experience. But the power of a solid like a Pyramid, to petrify and mummify objects, is known. Works by Chaumery and de Bézéliz, and by de Bondy, should be consulted. By F. Servranx.

p. 22. How is he? A subjective method of getting the answer from a photograph while the pendulum is held over sectors showing a third of a circle. By Alfred Ternisien.

p. 24. Map reading competition.

p. 25. Radiesthesia in Detective Work (part 7). By W. Herrinckx.

p. 28. Obituary: Monsieur A Bovis, the well-known diviner, of Nice. Inventor of the Biometre used by several B.S.D. members.

FEBRUARY, 1948

p. 30. Study of radiation in botany. An invitation to radiesthetists. By Baron de Dorlodot.

p. 34. Radar Principles are the basis of Prof. Luzy's views on the nature of radiesthesia, expressed in *La Radiesthésie Moderne*. On this hypothesis, diviners are asked to experiment. By A. Dubourg.

p. 36. Arguments in support of the view that radiesthesia is based on the truth of the view held by Louis de Broglie (Nobel Prize winner) that whereas the radioactive bodies are in a state of perpetual atomic disintegration, other bodies become radioactive through different causes. There is then induced radio-activity detectable by the diviner. Induced disintegration is observed above all as an effect observed between *all* similar bodies. By Pierre de Bondy.

p. 39.—The nature of the diviner's perception. Has there ever been a purely physical perception without some psychic association? The Abbé Moreux once wrote that the employment of the term psychic is itself a confession of ignorance as to causes. The most physical of radiesthetists must use his mind, as the Abbé Bouly, a physical radiesthetist, had to confess. By Henri Couty.

p. 45. Geometrical form; ideograms and their origin in the experiments which led to the creation of the Colour Index based on form. By F. Servranx.

p. 54. A diagnostic method based on colours. By A. L. Cotte.

p. 56. Map reading competition. Four out of 21 amateurs entering the house reading-test gained more than 50 per cent. marks. Three out of 25 were correct about the portrait of Mr. Attlee with a white band across the eyes. N. McB.

BOOKS AND APPLIANCES

Copies of the following books are required :—

The Physics of the Divining Rod (Maby and Franklin)

Dowsing—Trinder

Water Diviners and their Methods—H. Mager

Radial Detection—A. H. Cook

Geology of Water Supply—Woodward

The Art of Water Finding—M. E. Pogson

also any copies of old B.S.D. Journals.

The Editor would be obliged if anyone having copies to dispose of would communicate with him.

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A member is anxious to obtain sheets 14 and 19 of the 1in. to the mile Geological Survey, 1859, or their recent equivalent sheets, 281 and 282, which are at present out of print.

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Messrs. Devine & Co., St. Stephen's Road, Old Ford, London, E.C.3, supply whalebone strips 12in. long of the following sections at 5/- per pair :

Flat	7 mm. x 2 mm. or 3 mm.
Circular	3 mm. or 4 mm. in diameter
Square	3 mm. or 4 mm.

Also spherical whale ivory pendulums at 10s. each.

Prices of other sizes of rods and pendulums are given on request.

All prices post free in U.K.

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The following can be obtained from Mr. Guy Underwood, Belcombe House, Bradford-on-Avon, Wilts :—

OASIS Pocket Divining Rod (in case)	10/-
"LINK" Rod (in case)	8/-

Reprints of articles by Guy Underwood :—

Four articles and a lecture on dowsing generally—6/- the set

Four articles on archaeology and dowsing—5/- the set

Scale plans of dowsing surveys of Stonehenge, Avebury and Stanton Drew, size about 30 x 20 inches, price	each
Smaller plans of details, &c.	1/6

All post free, cash with order, and subject to a discount of 4/- in the pound to members of the B.S.D. Proceeds are applied to dowsing research.

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Copies of *Dowsing*, by Pierre Béasse, can be purchased at "Le Progrès Scientifique," 37, Rue Rossini, Nice (A.M.), France. This book, which is an English translation of the French original, contains 215 pages and 92 illustrations.

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Radiesthésie pour Tous can be bought at The News Stores, 10 Coptic Street, British Museum, London, W.C.1, at 2s. per copy.

Twelve consecutive copies can be ordered through Mr. Noel Macbeth, Moulsham Hill House, Chelmsford, Essex, for 16s. 8d.

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